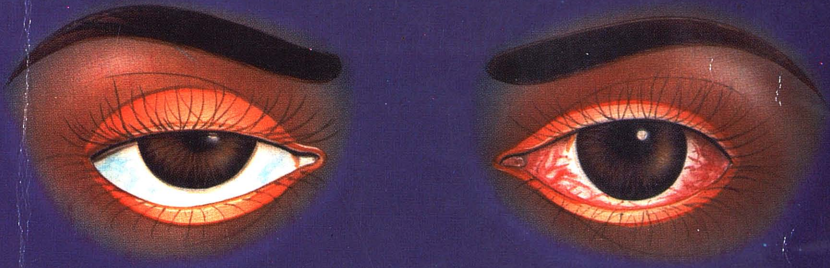
उन्माद की आयुर्वेदीय चिकित्सा

AYURVEDIC MANAGEMENT OF UNMĀDA (SCHIZOPHRENIA)



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उन्माद की आयुर्वेदीय चिकित्सा

AYURVEDIC MANAGEMENT OF *UNMĀDA* (SCHIZOPHRENIA)

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Front Cover : Characteristic feature of *Unmāda*

Back Cover : Ingredients of *Brāhmyādiyoga* (1). **Kuṣṭha**, (2) **Jatāmānsī**, (3) **Sarpagaṇdhā**, (4) **Vacā** and (5) **Maṇḍūkparṇī**

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CONTENTS

Foreword	(v)
Preface	(vii)
Acknowledgement	(ix)
Summary	(xi)
सारांश	(xiv)
Part I : Literary Background	1
Concept of *Manas* (Mind) In Āyurveda	3
Manovikāra (Mental Disease) in Āyurveda	13
Āyurvedic conecpt of *Unmāda* and various Aspects	29
Modern concept of *Unmāda* (Schizophrenia) and various Aspects	42
Review of Previous Studies	49
Part II : Clinical Studies	57
A Double Blind Controlled study on the role of *Brāhmyādiyoga* and *Tagara* in *Navonmāda* (Acute Schizophrenia)	59
A Double Blind Controlled study on the role of *Brāhmyādiyoga* and *Tagara* in *Jīrnonāda* (Chronic Schizophrenia)	77
A Controlled study on the role of Classical Āyurvedic treatment in Acutely ill patients with *Unmāda* (Schizophrenia)	89
Appendix	101
Bibliography	121

FOREWORD

The monograph entitled 'Ayurvedic Management of *Unmāda* (Schizophrenia)' authored by Dr. M.G. Ramu and his associates is based on the conceptual and clinical studies conducted by the authors in Ayurvedic Research Unit, Central Council for Research in Āyurveda and Siddha at National Institute of Mental Health and Allied Sciences, Bangalore. The authors have succeeded to present an over view on the concept of mental health and mental diseases as described in Āyurveda. Besides a good conceptual and literary appraisal on the subject the monograph contains the results of a good piece of clinical research and therapeutic trial of an Ayurvedic formulation in the treatment of acute and chronic schizophrenia vis-a-vis *Unmāda Roga*. The trials show encouraging results.

Āyurveda makes a fundamental approach to the understanding of psyche, cognition and consciousness encompassing the nature of being, the *Svāsthya* and the *Mokṣa* besides the unique realm of *Naiṣṭhiki Chikitsā* and components of spiritual medicine, Āyurveda describes the basic features of mental health and a variety of mental diseases as could be found in relevant clinical settings. The major categories of mental diseases described are *Cittodvega* or neuroses, *Unmāda* or psychoses, *Apasmāra* or convulsive disorders, *Atattvābhiniveṣa* or obsessive disorders besides *Mada, Madātyaya, Murcchā* and *Sanyās* comparable to alcoholism, fainting and coma. The Ayurvedic classics also describe a series of psychiatric syndromes symbolically termed after the name of different *Grahas* and *Bhūtas*. Caraka describes these symbolic *Grahaveśḥ* syndromes as *Āgantuja Unmāda* while the other classics described them in a separate chapter. However, these *Grahaveśḥ* syndromes should be considered as symbolically named psychiatric syndromes where probably the classic authors could not find easy linkage with the *Tridoṣa* and *Triguṇa* doctrine of Āyurveda and that refers to the realm of *Bhutavidya*.

An over view of the total Ayurvedic literature available in the context of Ancient psychiatry would reveal that Āyurveda describes in big detail almost all possible clinical entities of psychiatric illness quite comparable to the contemporary sciences.

Caraka while describing the aetiopathogenesis of *Unmāda* emphasises the role of genetic predisposition *(Alpa Sattvatā)* and the impact of the theory of *Karma* besides the wide range of environmental factors. Caraka considers *Unmāda* i.e.

psychosis as the disorder of *Śila* (habits and temperament), *Ceṣtā* (psychomotor activity), *Ācāra* (conduct and behaviour), *Manaḥ* (mind), *Buddhi* (decision making ability), *Smṛti* (memory), *Sajñājñāna* (orientation and responsiveness) and *Bhakti* (Desire). These eight factors as described by Caraka comprehend the true picture of psychopathology and are strikingly comparable to the latest knowledge in contemporary psychiatry.

The treatment modalities described in Ayurvedic classics include *Daiva Vyapāsroya* therapies and *Sattvāvajaya* i.e. psychotherapy besides full fledged *Yukti Vyapāsraya Cikitsā* through drugs, diet and life style management. A number of single and compound *Medhya* formulations are used in the treatment of mental diseases in Āyurveda. The present monograph presents the results of controlled clinical trial of a compound formulation, *Brāhmyādiyoga* containing six herbal *Medhya* drugs. The results show beneficial trends which could probably be enhanced by selective use in different cases in consideration of *Doṣa, Duṣya, Bala, Prakṛti* etc. There is a scope of further studies in this direction. However it may be stated that most of the Ayurvedic drugs may not be pharmacologically active psychotropic agents rather they may be considered more as special kind of neuro-nutrients which might be acting through nutrition dynamics. Such an action in principles may be slow but long lasting and safe. Ayurvedic *Medhya* and *Rasāyana* drugs if studies on appropriate parameters may open newer vistas of research in psycho-neuropharmacology.

I hope this monograph may prove useful for scholars and researchers in the field of Ayurvedic psychiatry and may inspire many more such studies in future.

14th Oct.1999

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Professor and Head Deptt.of Kayachiktsa
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PREFACE

Mental well being is recognised as an essential pre-requisite of a healthy person in Ayurveda. *Mana* (psyche) and its various abnormal stages have been specially defined. The disease causing functional indicators of the *Mana* such as *Rajas* and *Tamas* have also been specified. The mental disorders and specific mental disease has been adequately categorised and classified with full details of each disease. The *Sharira Doṣa-Vāta*, *Pitta & Kapha*, alongwith the *Rajas* and *Tamas* lead to the pathogensis of mental diseases like *Apasmara* and *Unamāda* etc.

The research on mental disease has been under process in the NIMHANS (For All India Institute of Mental Health & Neuro Sciences), Bangalore for about 40 years. The Council has taken over this Ayurvedic Research Unit in the year 1971. Planned clinical trials on some of the important mental diseases like *Chittodvega* (anxiety neurosis) and *Unmāda* (schizophrenia) etc. have been taken up thereafter. Efforts have been made by this Unit to evolve a specific therapies and formulations for each diseases. It has developed a compound formulations *Brāhmāyadiyoga* for the management of acute schizophrenia and a control clinical trial have been conducted. Effect of this treatment has been assessed in comparision to modern drug as well as some other Ayurvedic preparations. Similar studies have also been planned for chronic stage of the disease and another study to assess the effect of classical Ayurvedic drugs have also been conducted.

The monograph in two parts presents literary review and observations on three clinical studies. In the first part of the monograph the review of the literature and its critical analysis with respect to concept fo *Mana* (psyche) in Ayurveda and *Manovikāra* (mental disease) in Ayurveda, Ayurvedic concept of *Unmāda* and its various aspects, modern concept *Unmāda* (schizophrenia) and its various aspects and review of the earlier research studies have been presented. An Ayurvedic methodology/approach for clinical examination of the patients suffering from mental disorders developed by the Unit is also annexed.

The Second part with three chapters covers the clinical observations on double blind comparative clinical trial of *Brāhmāyadiyoga* in acute stage of *Unmāda* (schizophrenia), the role of *Brāhmāyadiyoga* in patients of chronic *Unmāda* and role of classical Ayurvedic management of *Unmāda* patients.

This study is an example of the collaborative research with modern physicians, psychologist and experts of Ayurveda in assessment of the effects of an Ayurvedic drug preparations in mental disorders. The observations put forth through this monograph will go a long way in propagating the Ayurvedic approach in the management of mental diseases. This will be a useful reference material for research workers/teachers/post-graduate students and practitioners of Ayurveda.

New Delhi
8th Oct., 99

(Prem Kishore)
Director

ACKNOWLEDGEMENT

The monograph on Ayurvedic approach to management of *Unmāda* (schizophrenia) is the outcome of intensive clinical studies conducted by the Council's Ayurvedic Research Unit, Bangalore under the able guidance of Prof. R.N. Verma, Ex-Director, NIMHANS and Prof. A.S. Mahal, Professor of Psychiatary. The subsequent Project Officers of the unit have also been helpful in giving shape to this programme. The Council extends their grateful thanks to them and Dr. (Mrs.) Gauri Devi present Project Officer and Director of NIMHANS, Bangalore.

Dr. M.G. Ramu, Ex-Asstt. Director, Dr. D.D. Chaturvedi, Ex-Research Officer, Dr. B.S. Venkataram presently Asstt. Director of the Unit and other contributors have been involved in planning and excution of this study and drafting of this publication. The Council records its appreciation for their efforts.

The efforts made by Dr. K.D. Sharma, Deputy Director (Technical) and Incharge Publication Section, Shri R.G. Agrawal, Assistant Research Officer (Chemistry) and Shri S.C. Pant, Assistant Research Officer (Bot.) of Publication Section, CCRAS, New Delhi in editing and printing of this monograph is also placed on record. The services rendered by M/s. Yugantar Prakashan, WH-23, Phase-I, Mayapuri, New Delhi for printing of this monograph is also acknowledged.

New Delhi
8th Oct., 99

(Prem Kishore)
Director

SUMMARY

Manasavikāra can be defined as an abnormal mental condition characterised by impairment of general mental functions (*Manahkarma*), the presence of weak psyche *(Alpastva)*, vitiation of both *Saririka* and *Manasadoṣa*, involvement of both *Adisthana* (body) and *Mana* (mind) or *Manas* alone and vitiation of *Manovaha Srotasa*. *Manasavikāra* results from the accrual of undesired objects or loss of desired ones, resulting in the impairment of the two *Manasadoṣas* viz., *Rajas* and *Tamas*. *Manasavikāra* can be classified into three groups viz., *Manoadhisṭhita Manasavikāra, Ubhayadhisṭhita Manasavikāra* and *Nantmaja Manasavikāra*. *Manoadhisṭhita Manasavikāra* results from emotional disturbances having *Rajas* and *Tamas* and are treated by psycho-behavioural threapy *(Satvāvajaya Chikitsā)*. Under *Ubhayadhisṭhita Manasavikāra*, two types of disorders can occur; the first one has primary involvement of *Manasadoṣa* while physical involvement is secondary. Clincial manifestations appear as physical illness and are relieved only when the emotional disturbances are overcome with behavioural threapy. In the second type, primary involvement is *Saririkadoṣa* and subsequently mental impairment also occurs. In this type, treatment is mainly with drugs, coupled with some selective *Satvāvajaya* measures. The third type, *Nanatmaja Vikāra* also has involvement of *Manasadoṣas, Rajas* and *Tamas*, but invariably one of the three *Saririkadoṣa* also will be impaired viz., *Vāta, Pitta* and *Kapha*. This condition is treated with drugs as well as behavioural threapy.

Śusruta recognised emotion like *Krodha, Śoka, Bhaya, Harsa, Lobha, Kāma* etc. as the cause of *Manasavikāra*. However Caraka described it as the accrual of undesired objects and loss of desired objects. Besides, *Alpasatva* (weak psyche) has also been described as a predisposing factor for *Manasavikāra*.

Unmāda (psychosis) is the most elaborately dealt *Manasavyādhi* in Ayurveda. It is described to be caused on account of unwholesome food and improper physho-behavioural activities, which impair the three *Doṣa* viz., *Vāta, Pitta* and *Kapha*. In *Unmāda, Manas* or *Mansadoṣa* viz. *Rajas* and *Tamas* are also affected. Hence treatment to restore *Tridoṣa* imbalanee should be coupled with correction of *Mansadoṣa*. It is rightly defined as a *Manasavikāra* caused due to the vitiated *Sāririka* and *Manasadoṣas* with a mounting upward pressure and manifesting as the unsettled condtion of the *Manas* (mind), along with the impairment of other seven factors described earlier.

Four types of *Doṣaja Unmāda* have been described in the Classics. They are *Vātonmāda, Pittonmāda, Kaphonmāda* and *Sannipātonmāda* (psychosis caused due to the discordance of all the three *Doṣa*). The cuases *(Nidāna)* for *Vātonmāda* have been described as dry food, cold food, reduced eating, purging, depletion of sustenance factors and fasting. These factors deplete the *Dhatu* and vitiate *Vāta*. *Pittonmada* results from the consumption of food which is difficult to digest/ pungent/sour or fermented food/causing acidity or burning sensation. These factors lead to the accumulation of *Pitta* in the body. *Kaphonmāda* results from reduced psychomoter activity/sedentary habits and consumption of food that vitiates *Kapha*. *Sannipātonmāda* is due to the vitiation of all the three Doṣa and will have and signs and symptoms of the three *Doṣaja Unmāda* in part of full.

Unmāda (schizophrenia) is a severe mental disorder, characterised by specific psychological symptoms and leading to a disorganisation of the personality of the patient. It manifests as a group of psychoses in which there is a fundamental disturbance of personality, a characteristic distortion of thinking, disturbed perception etc. Nevertheless, clear conciousness and intellectual capacity are usually maintained. The aetiology of schizophrenia is not completely understood. Several factors - genetic, bio-chemical, developmental, familial, social and immunological (viral) have been implicated. Currently, the evidence is strongest for the view that genetic disposition interacts with stress and results in schizophrenia.

Clinical studies and treatment of *Unmāda* using Ayurvddic/indigenous medicines

Medicine	No. of patients	Improvement	Reference
Siledin (herbal medicine)	112	59.9% cured	Kale (1961)
Acorus calamus Linn.	72	7 patients improved 9 patients improved over 50% and above	Kozedar *et al.*, 1962
Nuvon (compound formulation with 11 ingredients	44	Partial improvement	Dutta Roy *et al.*, 1964
Brāmyādiyoga (herbal compound containing *Brāhmī, Vacā, Sarpagandhā, Kuṣṭha, Tagara* and *Jaṭāmāṇsī*)	14	7 improved	Ramu *et al.*, 1978

Cont ....

TDNI (herbomineral compound powder containing *Āmalaki*, deseeded dry fruit, *Sarpagandhā*, *Khaskhas* and *Gairika*) -Topical application	230	Excitment symptoms subsided in 141 patients	CCRAS, NIMHANS, Bangalore

Experimental studies conducted in animals using the *Medhya* drugs, *Brāhmī* and *Maṇḍūkaparṇī* showed that the former durg and barbiturate hypnosis potentiation effect. Comparative effect of four *Medhya Rasāyana* durgs. viz., *Brāhmī*, *Śaṅkhapuṣpī*, *Yaṣṭi* and *Guḍūchī* on the stressed rats showed that the acetyl choline content could be reduced in treated animals.

Controlled studies were conducted in acute schizophernics, chronic schizophrenics and acutely ill patients with different types of schizophrenia using *Brāhmyādiyoga* and *Tagara*. These studies were done in association with the Department of Psychiatry, NIMHANS, Bangalore.

Brāhmyādiyoga is a comound drug consisting of whole plant juice of *Brāhmī*, rhizome power of *Vacā* and root of *Jaṭamānsī*. *Tagara*, *Kuṣṭha* and *Sarpagandhā*. The drug was administered as sugar coated tablets in 136 patients. It was reported that 20 patients treated with *Brāhmyādiyoga* showed remarkable improvement similar to chlorpromazine. Out of 23 chronic schizophrenic patients treated with *Brāhmyādiyoga*, 4 indicated marked relief and 4 had moderate relief. The efficacy of Ayurvedic treatment comprising both *Śodhana* and *Śamana* was studied in acutly ill patients. Psychopathological symptoms reduced in the treatment group.

सारांश

मानस विकारों को एक ऐसी असामान्य मानसिक दशा के रूप में परिभाषित किया जा सकता है जिसमें सामान्य मानसिक क्रियाओं का ह्रास (मनःकर्म), मानस दौर्बल्य (अल्प सत्व), शारीरिक एवं मानस दोष दुष्टि, शरीर एवं मन दोनों अधिष्ठानों का समावेश या केवल मन एवं मनोवह स्रोतस कि दुष्टि होती है। मानस विकार अनपेक्षित वस्तुओं की प्राप्ति से या इच्छित वस्तुओं के खो जाने से उद्भूत होता है और परिणाम स्वरूप मानस दोषों के रूप में प्रकट होता है, यथा–रजस एवं तमस। मानस विकारों को तीन समूहों में वर्गीकृत किया जा सकता है, यथा–मनोऽधिष्ठित मानस विकार, उभयाधिष्ठित मानस विकार एवं नानात्मज मानस विकार। मनोऽधिष्ठित मानस विकार–मानस एवं उनके अधिष्ठान से युक्त है जो भावनात्मक असन्तुलन से मन को अधिष्ठान बनाकर उत्पन्न होता है जिससे रजस एवं तमस भावों की पुष्टि होती है। यह सत्वावजय चिकित्सा द्वारा साध्य है। उभयाधिष्ठित मानस विकारों के अन्तर्गत दो प्रकार के रोग देखे जा सकते हैं, प्रथम में मानस दोषों की प्रारंभिक संयोजिता तथा दूसरे में शारीरिक दोषों का संयोजन होता है। व्याधि की संप्राप्ति में शारीरिक रोग के रूप में लक्षण प्रकट होते हैं जो केवल भावनात्मक असन्तुलन की व्यावहारपरक चिकित्सा द्वारा ही ठीक हो पाते हैं। इसके दूसरे प्रकार में शारीरिक दोषों की संयोजिता होती है, तदनंतर मानसिक दुष्टि भी होती है। इसकी चिकित्सा मुख्य रूप से औषधियों एवं कुछ चुनी हुई सत्वावजय विधियों से की जाती हैं। इसका तीसरा प्रकार नानात्मज विकार भी दोनों मानस दोषों रजस एवं तमस से युक्त होता है परन्तु शारीरिक दोषों वात, पित्त एवं कफ में से एक या अधिक शारीरिक दोष की भी संयोजिता अनिवार्य होती है। इस अवस्था में औषधियों के साथ–साथ व्यवहारपरक चिकित्सा भी की जाती है।

आचार्य सुश्रुत ने क्रोध, शोक, भय, हर्ष, लोभ, काम इत्यादि आवेगों को मनोविकारोत्पादक हेतुओं में माना है। आचार्य चरक ने इस क्रम में अपूरित इच्छाओं एवं वांछित वस्तुओं की हानि को हेतु माना है। इसके अतिरिक्त अल्पसत्व, (दुर्बल चित्त) को भी मानस विकार के हेतुओं में माना गया है।

आयुर्वेद में उन्माद का मानस व्याधि के रूप में अत्यधिक उल्लेख मिलता है। मिथ्याहारविहार द्वारा उसकी उत्पत्ति बताई गई है। जिससे तीनों दोषों–वात, पित्त एवं कफ का वैषम्य होता है। उन्माद में मानस या मानसदोष 'रजस और तमस' भी प्रभावित होते हैं। अतः त्रिदोष असन्तुलन

की चिकित्सा में मानसदोषों का भी सुधार करना चाहिए। इसलिए उचित ही कहा गया है कि मानस विकार दूषित शारीरिक और मानस दोषों तथा मन की अशांत स्थिति के साथ–साथ पूर्व में बताए गए सात कारणों से ही उत्पन्न होते हैं।

शास्त्रों में चार प्रकार के दोषज उन्माद वर्णित किए गए हैं। वे हैं–वातोन्माद, पित्तोन्माद, कफोन्माद तथा सन्निपातोन्माद (तीनों दोषों में विकार आने के कारण उत्पन्न उन्माद)। वातोन्माद का कारण (निदान) शुष्क, शीत एवं अल्प भोजन, रेचन, धातु क्षय तथा उपवास आदि हैं। इनसे धातुओं का क्षय होता है तथा अनन्तर वात दूषित होता है। पित्तोन्माद का कारण गुरु, तीक्ष्ण, खट्टे या किण्वित भोजन है जिससे अम्लपित्त या दाह का अनुभव होता है। जिसके कारण शरीर में पित्त संचय होता है। कम मनः चालक क्रियाएं, आलस्य की आदत तथा कफकारी भोजन करने के परिणामस्वरूप ही कफोन्माद होता है। सभी तीनों दोषों के दूषित होने पर सन्निपातोन्माद होता है और तीनों दोषज उन्मादों के कुछ या पूरे लक्षण इसमें दिखाई देते हैं।

उन्माद गंभीर मानसिक विकार है जो विशिष्ट मनोवैज्ञानिक लक्षणों से अभिलक्षित होता है और जो रोगी के व्यक्तित्व को अव्यवस्थित (विसंगत) बना देता है। यह विकारों के समूह के समान है जिससे व्यक्तित्व में मूलभूत अशांति, सोच में विशिष्ट, अशांत अवबोधन आदि होता है। जबकि सामान्यतः स्वच्छ मन और बौद्धिक क्षमता बनी रहती है। उन्माद का निदान अभी तक पूर्णतया ज्ञात नहीं है। बहुत से कारक यथा–आनुवंशिक, जैव–रसायनिक, विकास सम्बन्धी, पारिवारिक, सामाजिक तथा प्रतिरक्षा विज्ञानीय आदि की परिकल्पनाएं की गई हैं। मानसिक तनाव पर आनुवंशिकता के प्रभावों के वर्तमान में स्पष्ट प्रमाण प्राप्त हुए हैं जिनके परिणामस्वरूप उन्माद की उत्पत्ति होती है।

निदान चिकित्सात्मक अध्ययन एवं आयुर्वेदीय/अन्य वानस्पतिक औषधियों का प्रयोग करते हुए उन्माद रोग की चिकित्सा

औषधि	रोगियों की संख्या	लाभ	संदर्भ
सिलेडिन (पादप योग)	११२	५६.६ प्रतिशत	काले, १९६१
वचा	७२	७ रोगियों को पूर्ण लाभ, ६ रोगियों को ५० प्रतिशत तथा अधिक लाभ पाया गया।	फोजदार तथा अन्य, १९६२

क्रमशः......

न्यूवोन (११ घटकों के योग)	४४	केवल आंशिक लाभ	दत्ता रॉय तथा अन्य, १९६४
ब्राह्म्यादि योग (पादप योग जिसमें ब्राह्मी, वचा, सर्पगंधा, कुष्ठ, तगर तथा जटामांसी सम्मिलित हैं)	१४	७ रोगियों को पूर्ण लाभ	रामू तथा अन्य, १९७८
टी.डी.एन.आई. (पादप खनिज योग चूर्ण जिसमें, आमलकी बीज रहित सूखे फल, सर्पगंधा, खसखस,तथा गैरिक सम्मिलित हैं)	२३०	क्षोभ के लक्षण १४१ रोगी स्वास्थ्य एवं तंत्रिका	के.आयु.सि. अनु. प., राष्ट्रीय मानसिक विज्ञान संस्थान, बंगलौर।

मेध्य औषधियों, ब्राह्मी तथा मण्डूकपर्णी, का जन्तुओं पर प्रयोग करते हुए परीक्षणात्मक अध्ययन किया गया और पाया गया कि पूर्व औषधि का बारबीचुरेट जन्य निद्राजनन में अभिवबीर्द्धनात्मक प्रभाव है। ब्राह्मी, शंखपुष्पी, यष्टीमधु और गुडूची आदि चार मेध्य रसायनों का तनावग्रस्त चूहों पर तुलनात्मक प्रभाव देखा गया और चिकित्सित जन्तुओं में एसिटाइल कोलीन घटक में कमी पाई गई।

तीव्र उन्माद, चिरकालिक उन्माद तथा विभिन्न प्रकार से बीमार रोगियों में ब्राह्म्यादि योग और तगर का प्रयोग करते हुए नियंत्रित अध्ययन किया गया। ये अध्ययन मनोविकृति विज्ञान विभाग, रा. मा. स्वा. एवं तं. वि. सं. बंगलौर के सहयोग से किए गए।

ब्राह्म्यादि योग एक मिश्रित औषध योग है जो ब्राह्मी के सम्पूर्ण पादप का स्वरस; वचा के प्रकन्द चूर्ण और जटामांसी, तगर, कुष्ठ एवं सर्पगंधा की मूलों के चूर्ण से युक्त है। इस औषधि की शर्करा आवरण युक्त वटी को १३६ रोगियों में दिया गया। २० रोगियों में ब्राह्म्यादि योग से चिकित्सा करने पर उल्लेखनीय लाभ मिला जो कि क्लोरप्रोमाजीन के समतुल्य पाया गया। जीर्णोन्माद रोगियों में से २३ की ब्राह्म्यादि योग से चिकित्सा की गई जिसमें से ४ रोगियों को उत्तम एवं ४ रोगियों को सामान्य लाभ मिला। तीव्र पीड़ित रोगियों में शोधन एवं शमन दोनों आयुर्वेदीय चिकित्सा विधियों के प्रभाव की तुलना की गई। चिकित्सित समूह में मनोविकृतिजन्य लक्षणों में कमी पाई गई।

PART - I

LITERARY BACK GROUND

CONCEPT OF *MANAS* (MIND) IN ĀYURVEDA

Manaḥsvarūpa **(general view of mind)** : According to Caraka that entity which is responsible for contemplation and thinking is defined as *Manas*[1]. It is said to be inherited from the previous birth and evolved from a combination of *Vaikārika* and *Taijasa Ahaṅkāra*[2]. It is *Acetana* (inactive) by itself but gets *Cetana* (activeness) from *Ātmā* (self)[3]. It is *Dravya* (substence)[4]. Although beyond sensory perception, it is called *Dravya* since it has got both *Guṇa* (quality) and *Karma* (action) coexistent within itself. It is connected to both *Jñānendriya* (sensory centres) and *Karmendriya* (motor center) and therefore called *Ubhayātmaka* (combined sensomotor entity)[5].

Synonyms : *Citta, Cetas, Cetanā, Hṛdaya, Hṛit, Svānta, Manasam, Mana, Satva* are the synonyms of *Manas*. Among these the first three denote the origin of perception and *Hrit* and *Hṛdaya* indicate sensory attraction and control.

Manas is considered responsible for yoking *Ātmā* with *Indriya* and *Śarīra*[6]. Besides being capable of perceiving *Indriya Visaya* (sensory objects) viz., *Śabda*

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१. मनस्तु चिन्त्यमर्थः। ....प्रकृतिविकृतिहेतवो भवन्ति।। (च.सू.शा. ८–१६)

२. अस्ति खलु स्त्वमोपपादुकं, यज्जीवं ....
नानाविधानि खलु सत्वानि, तानि सर्वाण्येकपुरुषेडा भवन्ति, न च
भवन्त्येकालम्, एकं तु प्रायेवृत्याआह।। (च.स.शा. ३–१३)
तत्र बुद्धीन्द्रियाणां शब्दादयो विषयाः .... वचनादानानन्दविसर्गविहरणानि। (च. स. शा. १–५)

३. अचेतनं क्रियावच्च मनश्चेतयिता परः। .... निर्दिश्यन्ते विभोः क्रिया।।
(च. स. शा. १–७५)

४. तेषामन्यैः कृतस्यान्ये भावा भावैर्नवाः फलम्। ....नोपदिश्यते।। (च.स.शा. १–४८)

५. अव्यक्तं महानहंकारः पंचतन्मात्राणि ....षोडश विकाराः। (सु. सं. शा. १–६)

६. अस्तिम खलु सत्वमौपपादुकं; यज्जीवं स्पृक्शरीरेणाभिसंबध्नाति,
यस्मिन्न–पगमनपुरस्कृते शील...
नानाविधानि खलु सत्वानि, तानि सर्वाण्येकपुरुषेडा भवन्ति, न च
भवन्त्येककालम्, एवं तु प्रायोदृत्याआह।। (च.स.शा. ३–१३)

(sound), *Sparsa* (touch), *Rūpa* (shape), *Rasa* (taste) and *Gandha* (smell) *Manas* has the ability of experiencing *Sukha* and *Duhkha* and its own *Arthās* like *Cintya* (thought about), *Vicārya* (considered upon), *Uhya* (speculated about), *Dhyeya* (mediated upon) and *Saṅkalpga* (imagined of). *Manas* can operate indepent of *Indriya* but not vice versa. It is both *Jñānātmaka* (receptive) and *Karmātmaka* (executive) whereas *Jñānedriya* are only receiptive and *Karmentriya* only executive. *Indriya* are *Pratiniyata* (specific). For example *Śabdendriya* can transact or contact only with sound, *Sprasendriya* can transact or contact only with touch and so on. But *Manas* can experience/operate/transact with all the *Indriyas*.

***Bhoutikatva* of *Manas* (physical nature of mind)** : According to Ṣuśruta *Manas* is regarded as *Ahaṅkārika*[1], whereas Caraka says *Manas*, is evolved from *Khādīni*[2]. Cakrapāṇi comments that *Khadīni* should be understood as *Sūksmabhūta*. Caraka also says that *Manas*, *Manoartha* (objects of mind), *Buddhi* (understanding/ intellegience) and *Ātmā* (self) constitute the aggregate of *Adhyātma Dravya or* self related entities[3]. *Manas* has been said as *Oupapaduka* (carried over from the past births)[4]. Kaśyapa accepts the *Dravyatva* of *Manas*[5]. In view of the above, though *Manas* has been considered as *Dravya* because of its *Guṇa* and *Karma* it cannot be apprehended physically. However, it is a fact that *Auṣadha* (drugs) and *Āhāra* (food) which are *Pāñcabhautika* (physical) in nature, influence *Manas* its well being, creativity, causation of its imbalance and the treatment of *Manovikāra*.

***Manoguṇa* (qualities of mind)** : *Manas* has two basic qualities viz. *Aṇutva* (atomic dimension) and *Ekatva* (unitary nature)[6]. *Aṇutva* denotes *Sūkṣmatva*

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१. अव्यक्तं महानहंकारः पंचतन्मात्राणि चेत्यष्टो प्रकृतयः शेषाः षोडश विकाराः। (सु.स.शा. १–६)

२. खादीनि बुद्धिरव्यक्तमहंकारस्तथाअष्टमः।
बुद्धीन्द्रियाणि पंचैव पंच कर्मेन्द्रियाणि च। ....विकारा इति संज्ञिताः।।(च.स.शा. १–६३, ६४)

३. मनो मनोर्थो बुद्धिरात्मा चेत्यध्यात्मद्रव्यगुणसंग्रहः
शुभाशुभप्रवृत्ति निवृत्तिहेतुश्च, द्रव्याश्रितं च कर्मः यदुच्यते क्रियेति।। (च.स.सू. ८–१३)

४. अस्ति खलु सत्वमोपपादुकं, यज्जीवं स्पृक्शारीरेणाभिसंबघ्नाति, ...
नानाविधानि खलु सत्वानि, तानि सर्वाण्येकपुरुषें भवन्ति, न च
भवन्त्येककालम्, एवं तु प्रायोवृत्याआह। (च.स.शा. ३–१३)

५. ब गुणवृद्ध्या अवस्थितानि महाभूतानि दिगात्मा मनः कालश्च द्रव्याणि। (का.सं.शा. पृ. ६७. अ.)

६. वैवृत्यान्मनसोज्ञानं सान्निध्यात्तच्च वर्तते।
अणुत्वमथचैकस्वं द्वौ गुणौ मनसः स्मृतो।। (च.स.शा. १–१६)

(subtleness) or *Atīndriyatva* (the state beyond sensory/motor apprehension) of *Manas*. It is different from other entities and is unitary by nature which means that it is not a part of some thing but an indivisible unit by itself. However, by virtue of its exceptional capacity for rapid shifts in transactions it is mistaken to be engaged in several transactions at a time. That fact is that *Manas* is only one since it can truly apply itself on only to one task at a given point of time.

Further, *Manas* is said to be constituted of 3 operational qualities viz., *Satva or Kalyāṇabhāga, Raja* or *Roṣabhāga* and *Tamas* or *Mohabhāga*[1]. These are understood by the role they play in the emergence of three corresponding response pattern in man. *Satva* is indicated by self control, knowledge, discriminating ability power of exposition, etc. *Raja* is indicated by violence, despotic envy, authoritativeness self adoration etc. *Tama* is indicated by dullness, nonaction, sleep, etc. Thus these three qualities act as the functional indicators of *Manas*.

Buddhi (decision) and *Smṛti* (memory) are recognised as the intrinsic dimension of *Manas*. The word *Manas* when used collectively or in general sense, refers to the totality of knowing or doing which includes *Buddhi* and *Smṛti* as well. *Manas* as a specific term relates to its functions viz., *Indriyabhigraha* (perception), *Svanigraha* (mental control), *Ūha* (guess), and *Vicāra* (thought).

***Manasthāna* (location of *Manas*)** : While considering the location of *Manas* two organs viz., *Śira* and *Hṛdaya* have been considered in Ayurveda.

Śira (head) has been considered as the *Śreṣṭhatama Āyatana* (most vital location) of *Ātmā* and seat of *Manas, Buddhi, Cetana,* etc. It is also consiered as *Indriyāyatana* (abode of senses). Caraka considers *Śiras* as *Uttamāng* since it is the seat of vital centres of all senses[2]. He also states that *Mastiṣka* which measures *Ardhāñjali* (1/2

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१. विविधं खलु सत्वं शुद्धं राजसं, तामसमिति । तत्र शुद्धमदोषमाख्यातं कल्याणांशत्वात्,
राजसं सदोषमाख्यातं रोषांशत्वात्,
तामससमपि सदोषमाख्यातं मोहांशत्वात् ....
शरीरं ह्यपि सत्वमनुविधीयते, सत्त्वं च शरीरम् ।
तस्मात् कतिचित्सत्वभेदाननूकाभिनिर्देशेन निदर्शनार्थमनुव्याख्यास्यामः ।।

(च.स.शा. ४–३६)

२. प्राणाः प्राणभृतां यत्राश्रिताः सर्वेन्द्रियाणि च ।
यदुत्तमांगमंगानां शिरस्तदभिधीयते ।। (च.स.सू. १७–१२)

शिरसि इन्द्रियाणि इन्द्रियप्राणवहानि च स्रोतांसि ।
सूर्यमिव गर्भस्तयः संश्रितानि, ... (च.स.सिद्धि. ६–४)

cup of the folded palm)[1] and is within the *Kapāla* (skull) which protects *Maṣtiṣka* (brain matter). *Maṣtiṣka* is said to have the appearance and consistency of half melted ghee. *Mastulungadarśana* (exposure of brain matter) is said to be a condition i.e. impossible to treat[2].

The place between *Śira* (head) and *Tālu* (hard palate) is said to be the seat of *Manas*. Remaining there *Manas* derives the power of all *Indriyas* according to Bhelasamhita[3]. Bhela also suggests that *Maṣtiṣka* measures *Ḍrdhāñjali* and gives strength to *Śira*. These descriptions prove that Acrayas were well aware of brain matter and its importance.

Hṛdaya has been seen termed as *Cetanāyatana*[4]. Here *Cetanā* refers to *Samanaska Ātmā*. As we know *Ātmā* is the initiator of actions and *Manas* in the mediator and executor. *Sukha* (pleasure), *Duhkha* (pain), *Prayatna* (intiation), originate from *Hṛdaya*. *Ātmā* and *Manas* though coexistent and pervade throughout the body, *Ātmā* initiates mainly through *Hṛdaya* and *Manas*. Popular usages like *Suhṛdaya*, *Ārdrahṛdaya* and others, reflect that *Hṛdaya* plays an important role in reflecting one's mental frame.

On the basis of these descriptions, it is possible to conclude that, that part of the *Manas* related to brain functions is predominantly active in the *Śira* (brain) and the

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१. यत्वंजलि संख्येयं तदुपदेक्ष्यामः; तत् परं प्रमाणमभिज्ञेयं, तच्च वृद्धिहासयोगि, ...
पंच पित्तस्य, चत्वारो मूत्रस्य, त्रयो वसायाः, द्वौ मेदसः,
एको मज्जायाः, मस्तिष्कस्यार्धान्जलिः, शुक्रस्य तावदेव
प्रमाणं, तावदेव श्लैष्मिकस्यौजस इति । एतच्छरीरतत्वमुक्तम् ।

(च.स.शा. ७–१५)

२. शिरसोअपहृते शल्ये बालवर्ति निवेशयेत् ।
बालवर्त्यामदत्तायां मस्तुलुंगं व्रणात् स्रवेत् ।
हन्यादेनं ततो वायुस्तस्मादेवमुपाचरेत् ।।

(सु. सं. चि. २–७०)

३. संवृद्याद्येन्द्रियाणां हि तेषामपि विचेष्टितम् । .... सर्वेन्द्रिय परं मनः ।
तत्रस्थं तद्वि विषयानिन्द्रियाणां रसादिकान् । .... भावांश्च नियच्छति ।।
व (स) मनः प्रभवं चापि सर्वेन्द्रियमयं बलम् । .... चित्तं हृदयसंश्रितम् ।।
क्रियाणां चेतरासां च चित्तं सर्वस्य (त्र) कारणम् । .... दुश्चित्तास्तु विमार्गगाः ।।

(भे.सं. चि. ८–२ से ५)

४. हृदयं चेतनाधिष्ठानमेकम् (च.सं.शा. ७–८)

part related to motivational aspects is more active in the *Hrdaya* (heart). In other words, that aspect of *Manas* which is most proximate to *Ātmā* is in *Hrdaya* and that aspect which is most proximate to *Indriyas* is in *Śira*[1].

***Manahkarma* (functions of mind)** : *Manas* is motivated when *Ātmā* motivated. As a result of this, *Indriyas* are also activated. Actions of *Manas* are based on its *Rūpādi* and *Cintyādi Viṣaya*. These *Viṣaya* (*Arthas*-objects) are also referred to as *Arthasampat*[2]. On the other hand *Prayatnādi Linga* are called *Ātmasampat*[20]. *Arthasampat* reflects action of *Manas* with *Viṣaya* and obviously *Indriyas* whereas *Ātmasampat* reflects the action of *Manas* directly without the aid of *Indriyas* and/or *Indrivartha*.

Functioning of *Manas* will be in two stages viz., *Kṣanikai* (momentary/transient) said *Niścayātmika* (decisive of final). Unqualified initial response of *Manas* will be transient and this is called *Indriyābhigraha* (preception), This is the first stage. When this initial unqualified response becomes qualified and clear, it will be called *Nicayātmaka Jñāṇa* (decisive knowledge). This is the second stage. In the absence of the interposition of *Manas* between *Ātmā* and the *Indriyas* (senses), there will be no cognition[3].

Like senses, *Manas* has its own *Arthas* (objects). They are *Cintya* (thought about), *Vicarya* (considered upon), *Ūhya* (speculated about), *Dhyeya* (meditated upon), and *Saṅkalpyā* (imagined of) and whatever else is known or understood by. *Manas* is also known as object of *Manas*[4]. For a better understanding it is possible

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१. त एवं विधानां प्राणभृतां क्षिप्रमभिनिर्वर्तन्ते;
तद्यथा—रजस्तमोभ्यामुपहतचेतसामुद्भ्रांतविषमबहुदोषाणां ....
कामक्रोधभयलोभमोहहर्षशोकं चिन्तोद्वेगादिभिः सहसाअभिपुरयन्ति, तदा जन्तुरपस्मरति ।
(च. सं. नि. ८–४)

२. अतीन्द्रियं पुनर्मनः सत्वसंज्ञकं चेतः इत्याहुरेके......................चेष्टाप्रत्ययभूतमिन्द्रियाणाम् ।
(च.सं.सू. ८–४)
आत्मा चेतनप्रतिसन्धाता, अनयोः सम्पत् तदर्थात्मसम्पत् । .... चक्षुरादीन्द्रियप्रेरणं च ।
(चक्रपाणिः)

३. कारणं वेदनानां किं, किमथिष्ठानमुच्यते ।
क्व चैता वेदनाः सर्वा निवृत्तिं यान्त्यशेषतः । (च.स.शा. १–१३)
वैवृत्यान्मनसो ज्ञानं सान्निध्यात्तच्च वर्तते ।
अणुत्वमथ चैक्त्वं द्वौ गुणौ मनसः समृतौ ।
(च.स.शा.१–१६)

४. चिन्त्यं विवार्यमूह्यं ....तत् सर्वं ह्यर्थसंज्ञकम् । (च.स.शा. १–२०)

to view *Dhyeya* and *Sankalpya* objects with *Buddhi*, and *Cintya, Vicārya* and *Ūoha* objects with *Manas*.

Indriyābhigraha, Swanigraha, Ūha, and *Vicāra* are the functions of *Manas*[1]. These four functions also can be considered under the different aspects of *Manas*. *Indriyābhigraha, Vicāra* and *Ūha* can be understood under *Manas* and *Svanigraha* under *Buddhi*.

Indriyābhigraha refers to the proper functioning of *Jñānendriya* and *Karmendriya* in the absence of any defects in the *Indriyas* (cerebral organic factors-central) and *Indriyadhisthana* (sensory and motor organs-peripheral) which impede the functions of *Indriyas* apart from disordered *Manas*.

Manonigraha refers to mental control which is the ability to concentrate on something and stick to the given task or chosen courses of action without being unduly interrupted by the distracting stimuli from outside. *Ūha* refers to the ability to guess different possibilities when one comes across a familiar situation. *Vicāra* rafers to the ability to discriminate between right and wrong, possible and impossible, acceptable and unacceptable etc.

Following the actions of *Manas, Buddhi* decides which is good or bad, right or wrong, what is to be done, etc. *Manas* is indicated by the presence of the cognition as well as the absence of cognition[2]. Knowledge occurs when the sequential relationship of *Ātmā* (self) *Manas* (mind), *Indriya* (senses) and *Indiryārtha* (sensory objects) is established[3].

Satva, Raja and *Tama* are the three qualities attributed to *Manas*. Among them *Satva* is considered as *Guṇa* and the other two as *Doṣa*. They determine the pattern of mental function. They are also known as *Kalyañabhāga, Roṣabhāga* and

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१. इन्द्रियाभिग्रहः कर्म मनसेः .... ततः परं बुद्धिः प्रवर्तते ।

(च.स.शा. १–२१)

२. लक्ष्पणं मनसो ज्ञानस्याभावो भाव एवं च ।
सति ह्यात्मेन्द्रियार्थानां सन्निकर्षे न वर्तते ।। (च.स.शा. १–१८)

३. इन्द्रियेणेन्द्रियार्थो हि समनस्केन गृह्यते ।
कल्प्यते मनसा तूर्ध्वं गुणतो दोषतोअथवा ।। (च.स.शा. १–२२)

Mohabhāga[1] from which the different response patterns emerge as mentioned earlier.

***Smṛti* (memory)** : *Smṛti* refers to the ability to recall knowledge stored in the mind. *Driṣta* (seen), *Śruta* (heard), *Anubhūta* (experience) are three types of *Smṛti*. It is caused by eight[2] sources viz. *Nimitta* (associative) recall, *Rūpagrahaṇa* (apprehension of form), *Sādiriśya* (similarity), *Viparayaya* (contrast), *Satvānubandha* (mental focus on matters befitting recall), *Punaśruta* (rehearing, *Abhyāsa* (practice), and *Jñānayoga* (direct knowledge). By *Jñānayoga* one is enabled to directly recall everything leading to true knowledge.

***Buddhi* (intelligence)** : *Buddhi* is that which discriminates between *Nitya* (eternal), *Anitya* (transient), *Ahita* (unwholesome) and *Hita* (wholesome) and the like. If *Buddhi* is deranged or unsettled, the ability to discriminate gets impaired and reflected in the form of undesirable behaviour. *Buddhi* is also known as *Dhee*.

***Dhṛti* (control)** : This controls *Manas* from indulging in unwholesome arthas of both *Indriyas* and *Manas*. This control is lost when *Dhṛti* is impaired, and undesirable behaviour[3].

***Prajñā* (conscience)** : *Prajñā* is an aspect of *Manas* comprising of *Dhī*, *Dhṛti* and *Smṛiti*. Proper comprehension and conduct are its functions. If *Prajñā* is impaired on account of *Prjñāparādha* (volitional transgression) these functions are effected and an abnormal state results[4].

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१. त्रिविधं खलुसत्वं शुद्धं, राजसं, तामसमिति। ....
तस्मात् कतिवित्सत्वभेदाननूकाभिनिर्देशेन निदर्शनार्थमनुव्याख्यास्यामः।।
(च.स.शा. ४–३६)

२. वक्ष्यन्ते कारणान्यष्टौ स्मृतिर्यैरूपजायते।
निमित्तरूपग्रहणात् साद्श्यात् सविपर्ययात्।।
सत्वानुबन्धादभ्यासाज्ज्ञानयोगात् पुनः श्रुतात्।
दृष्टश्रुतानुभूतानां स्मरणात् स्मृतिरुच्यते।। (च.स.शा. १–१४८, १४६)

३. विषमाभिनिवेशो यो नित्यानित्यं हिताहिते।
ज्ञेयः स बुद्धिविभ्रंशः समं बुद्धिर्हि पश्यति।। (च.स.शा १–६६)

४. विषयप्रवणं सत्वं घृतिभ्रंशान्न शक्यते।
नियन्तुमहितादर्थाद्धृतिर्हि नियमात्मिका।। (च.स.शा १–१००)

५. बुद्ध्या विषमविज्ञानं विषमं च प्रवर्तनम्।
प्रज्ञापराधं जानीयान्मनसो गोचरं हितत्।। (च.स.शा. १–१०६)

***Satva* (mental stamina)** : Here *Satva* refers to phychic strength or tolerance of the individual. In the Ayurvedic classics three types of *Satva* namely, *Pravara* (excellent), *Madhyama* (moderate) and *Avara* (poor) have been described[1]. It is said that those individuals with *Pravara satva* though with small build, remain composed even if they are afflicated with serious illnesses. Those with *Madhyama Satva* will worry about the illness but become composed if counselled by others. Those with *Avara Satva* inspite of their big build, react sharply even to a small ailment and are not consoled by others. The lower the *Satva*, lower the endurance of the individual.

Since the functional efficiency of *Manas* corresponds with the individuals level of *Satva*, it is importance to examine this level accurately for proper diagnosis, treatment plans and prognosis.

***Concept of Oja* :** *Oja* is an important principle present in the body for the later's well-being[2]. It is the finest essence of the seven *Dhātu* (sustenance factors). It is also called *Bala* (strength) and it is said that body ceases to exist in its absence. It's two types are *Para Oja* and *Apara Oja* measuring eight *Bindu* (drop), and half *Añjali*, respectively. *Para Oja* is located in *Hṛdaya*. It sustains and controls the living state and gets nourishment through *Ahara*. *Apara Oja* is located in the *Dhamanis* connected to *Hṛdaya*. *Oja* is closely related to the proper functioning of the various functions of the body including that of the *Manas*. Abnormal emotions, trauma, toxic substances improper diet, are some of the causes that affect *Oja*. Depletion of *Oja* effects the strength of *Manas* and weakens it. Conversely the factors which are

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१. सत्वतश्चेति सत्वमुच्यते मनः । तच्छरीरस्य................
भ्रमप्रपसनानामन्यतममाप्रबन्त्यथवा मरणमिति ।।

२. बिभेति दुर्बलोअभीक्ष्णं ....क्षामश्वेवौजसः क्षये ।
प्रथम जायते ह्योजः शरीरेअस्मिंछरीरिणाम् । ....प्रजायते ।

(च.सू.स. १७–७३ एवं ७५)

यस्य । नाशत्तु नाशो अस्ति....................यत्र प्रतिष्ठिताः ।
ध्मानाद्धमन्यः स्रवणात् स्रोतांसि सरणात्सिराः ।

(च.स.सू. ३०–११, १२)

गुरुत्वं स्तब्धता अंगेषु ....भेदनम् ।
तन्द्रा निद्रा.............................प्रलापोअज्ञानमेव च ।
तत्र विर्स्रसे व्यापन्ने च ....मूढसंज्ञं वर्जयेत् ।
दोषथातुमलक्षीणो बलक्षीणोअपि वा नरः ....प्रकांक्ष्यति ।

(सु.स.सु. १५–२६ से २६)

good for *Manas* will improve *Oja*. That is why it is said that factors causing mental distress should be avoided lest *Oja* gets vitiated and in turn affects *Manas*[1].

From the above, it will be clear that the study of *Oja* will be helpful in understanding the status of *Manas*. By virtue of being relatively grosser than *Manas* it provides an access to the latter particularly in the treatment of *Manasavikāra*.

***Mānasa Prakṛti* (psychic constitution)** : *Prakṛti* is the innate basic core of an individual. This is to formed at the time of conception due to union of *Śukra* (semen) and *Śonita* (ovum)[1]. Though stable relatively resistant to change throughout life, it is influenced by various factors like, desires and aspirations of the expectant mother during pregnancy, age, food, etc. The deeds of the previous birth also influence the formation of *Prakṛti* in the present one. These influences are inherited through *Sūkshma-Śārīra* at the time of conception.

Prakṛti is reflected and understood through the individual's behavioural and response pattern in relation to his morphological state and physiological, psychological, social and spiritual dimensions. Depending on the aspects in whose relationship *Prakṛti* is spoken of, the terms like *Deha Prakṛti, Doṣa Parkṛti, Śukrasoṇita Prakṛti, Mātuscāhāra Prakṛti* are used.

In the classics, seven types of *Śārīrika Prakṛtis*[2] viz.,*Vāta Prakṛti, Pitta Prakṛti, Kapha Prakṛti,* three *Dvandvaja Prakṛti* like *Vātapitta, Pittakapaha, Kaphavāta Prakṛti* and one *Sama Prakṛti* have been described. The three types of *Satvika Prakṛti* six, type of *Rāja Prakṛti* and three types of *Tāmas Prakṛti* have been

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१. येनौनता वर्तयन्ति प्रीणिताः सर्वदेहिनः। ....
परिटार्या विशेषेण मनसो दुःखहेतवः ।। (च.स.सू. ३०–६ से १३)

२. सप्त प्रकृतयो भवन्ति–दोषैः पृथक्, द्विशः, समस्तैश्च।
(सु.सं.शा. ४–६२)

३. शरीरे क्षीयमाणेअपि वर्धेत द्वाविभौ सदा। ....
सप्त प्रकृतयो भवन्ति दोषैः ....
तत्र वातप्रकृतिः प्रजागरुकः ....
पित्तप्रकृतिस्तु स्वेदनो दुर्गन्धः ....
श्लेष्मप्रकृतिस्तु दूर्बेन्दीवरनिस्त्रिंशाद्रीरिष्टकशर ....
तार्क्ष्यहंससमानूकाः श्लेष्मप्रकृतयो नराः।
(सु.स.शा. ४–६१ से ७६)

described with their individual characteristics[1]. Here the three terms *Satva Rājas* and *Tāmas* reflect the three inborn types of *Manas*.

It is said that the person endowed with *Sātvika Prakṛti* will be intelligent, clean righteous and believes in the other world. He who is with *Rājas Prakṛti* will be over talkitive, egoistic, arrogant, angry and jealous. He who is with *Tāmas Prakṛit* will also be present in different degrees.

The knowledge of *Prakṛti* is very essential in designing, suitable preventive strategies against various illness. It would also aid better understanding of the illness and of the prognosis. In the administration of treatment also, suitable modification may be done in terms of drug selection, dose, time of drug application, adjuants, etc., on the basis of the *Prakṛti* of the individual. Since manifestation of a disease, its severity, and prognosis are closely related to both *Śarīerika* and *Mānasa Prakṛti* of the individual, the study of *Prakṛti* becomes essential. Establishing relationship between the *Śārīerika* and *Mānasa Prakṛti* from a practical view point, would be an interesting and useful exercise for better patient care as well as prevention of illness.

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१. त्रिविधं खलु सत्वं शुद्धं, रजसं, तामसमिति। ,..
.... निदर्शनार्थमनुव्याख्यास्यामः।
प्रियनृत्यगीतवादित्रोल्लापकश्लोकाख्यायिकेति..
इत्येवं शुद्धस्य सत्वस्य सप्तविधं .... ब्राह्ममत्यन्तशुद्धं व्यवस्येत्।।
शूरं चंडमसूयकमैश्वर्यवन्तमौपथिकं रौद्रमननुक्रोशमात्म पूजकमासुरं विद्यात्। ....
इत्येवं खलु राजस्स्य सत्वस्य षड्विधं भेदांश विद्यात्, रोषांशत्वात्।
निराकरिष्णुममेधसं जुगुपिस्तावाराहारं मैथुनपरं स्वप्रशीलं पाशवं विद्यात्। ....
इत्येवं तामस्य सत्वस्य विविधे भेदांशं विद्यान्मोहांशत्वात्।

(च.सं.शा. ४–३६ से ३९)

MANOVIKĀRA (MENTAL DISEASE) IN ĀYURVEDA

Manovikāra in *Saṁhitākāla* : Āyurveda emphasizes the need for prevention and cure of diseases through preservation and promotion of healthy habits and suggests various mental and physical health care measures to achieve total positive well being. Management of mental disorders or phychological medicine was an area of specialization even during Caraka's time (500 B.C.; Dwivedi, 1966). Caraka suggests that, treatment for mental illness should be sought through an expert in the field of mental disorders. Chakrapāṇi (11 A.D., Dwivedi; 1966) commenting on this statement uses the phrase *Manasavyādhibhesajavedī*[1] (knowers of treatment of mental illness). Presently no ancient Āyurvedic classic dealing exclusively on mental health are available. We have to rely on the scattered and scanty aphoristic material relating to *Manas* and *Manovikāra* in the available Āyurvedic treatises like Carakasaṁhitā, Śusrutasaṁhitā and others. Yet, the available the information is richly useful in understanding *Manas* (mind) and treating *Manovikāra* (mental disorders), when they are carefully compiled as per present needs. It is very interesting to know that on the basis of Caraka's definition of *Unmāda* (psychosis), a comprehensive Āyurvedic scheme of mental examination could be formulated to become very useful document in the diagnosis of various mental disorders, and in assessing the efficacy of the treatment (Ramu *et. al.*, 1981).

A critical review of the information available in the classics enables one understand mental disorders in terms of their classification, symptomatology and management.

Āyu is defined as the combined state of *Śarīra* (body) *Indriya* (senses) *Satva* (mind) and *Ātmā* (self)[2]. It is classified as *Hitāyu* (good life) and *Ahitāyu* (bad life)

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१. तत्र बुद्धिमता मानसव्याधिपरीतेनापि सता बुद्या हिताहितमवेक्षवेक्ष्य
धर्मार्थकामानाहितानामनुपसेवने हितानां चोपसेवने प्रयतितव्यं, न यतावच्चेतति ।।.......................
(च.स. सू. ११–४६, चक्रपाणि)

२. शरीरेन्द्रिसत्वात्मसंयोगो धारि जीवितम् ।
नित्यगश्चानुबन्धश्च पर्यायेरायुरुच्यते ।। (च.स.शू. १–४२)

as well as *Sukhāyu* (happy life) and *Asukhāyu* (unhappy life)[1]. Briefly speaking *Sukha* and *Duhkha* refer to the well or ill being of the individual. In other words they indicate the relationship between *Manas* and *Śarīra*. *Hitāyu* and *Ahitāyu* indicate the conductive or non-conductive life of the *Puruṣa* (individual) in relation to *Loka* Āyurveda goes beyond *Śarīra* and *Manas* to encompass the social, spiritual, and environmental dimensions of life, as well.

Being an evolute of Vedas it is natural that Āyurveda has accepted some of the important Vedic postulates like the theory of *Punarjanna* (rebirth), *Karmaphala* (results of actions from one birth to another), *Suksma Śarīra* (subtle or etheral body), and many others.

***Śṛṣti* (evolution)** : For understanding *Manas* and its disorders from Āyurvedic point of view, a study of *Śṛṣti* of the entire universe including man, becomes essential. The theory of creation of universe described in Āyurveda is based on the ancient philosophical schools like *Sāṅkhya* and *Vaiśeṣika*. It should be understood that the evolutionary process is not necessarily chronological in the stricter sense since it transcends time and space limitations. The order put forth is mainly for practical convenience and easy understanding.

Śusruta follows the *Sāṅkhya* view of 25 principles of evolution[2]. According to him *Avyakta* (unmanifest) is the first principle in the process of *Śṛṣti*. *Mahāna* (magnum) is the second principle generated from *Avyakta*. From *Mahāna* is evolved *Ahaṅkāra* (principle of individuation). This *Ahaṅkāra* is of three types viz., *Sātvika* (pure), *Rājas* (passionate) and *Tāmas* (inert), known as *Vaikārika*, *Taijas* and *Bhūtadi Ahaṅkāra* respectively.

Vaikārika Anaṅkāra with the aid of *Taijas Ahaṅkāra* produces five *Buddhindriya* (cognitive organs), five *Karmendriya* (motor organs) and *Manas* (psyche). Likewise, *Bhūtadi Ahaṅkāra* with the help of *Taijas Ahaṅkāra* gives rise to five *Tanmātrās* (proto elements) which in turn produce grosser *Pañcabhūta* (five elements).

When the 25th principle *Puruṣa* i.e. self combines with the above 24 principles- the embodied *Puruṣa* is born. Hence the name *Pañcavimśatika Puruṣa* (man constituted of 25 principles).

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१. तत्रायुरुकतं स्वलक्षणतो यथावदिहैव पूर्वाध्याये च। तत्र ....
सुनियतरागरोषेर्ष्यामदमानवेगस्य सततं विविधप्रदानपरस्य........................
.... अहितमतो विपर्ययेण। (च.स. सू. ३०–२४)

२. तस्मादव्यक्तान्महानुत्पद्यते तल्लिंग एवं ....
एवमेषा तत्वचतुर्विंशातिव्याख्याता। (सु.सं. शा. १–४)

Caraka considers *Puruṣa* under *Avyakta* and counts only 24 principles. He calls *Puruṣa* as *Kṣetrajña* (konwer of the manifest universe) and the remaining 23 principles as *Kṣetra*[1].

According to Caraka, *Avyakta* or *Puruṣa* is the first principle, in the scheme of evolution. *Mahān* or *Buddhi* is evolved from *Avyakta* and from *Buddhi*, *Ahaṅkāra* is evolved. From *Ahaṅkāra*, five *Sūkṣmabhūtas-Khādīni*, i.e., *Tanmātrā* (proto elements), five *Artha* (objects) and 11 *Indriyas* viz., five *Jñānendriya*, five *Karmendriya* and *Manas* are evolved[2].

It should be noted that Caraka does not consider the three types of *Ahaṅkāra* put forth by Śusruta. Although he considers first *Khādīni* should and then *Artha* in the chronology of evolution, Cakrapāṇi, the commentator of Caraka saṁhitā opines that five *Khādīni* should be understood as five *Sūksmabhūta* or *Tanmātrā*[3]. Thus both Śusruta and Caraka consider the *Aṣta Prakṛti* and evolution of *Ahaṅkāra* alike. Further Cakrapāṇi suggests that the five *Artha* should be understood as five *Bhūta*[4] since the subtler *Guṇas* (*Artha*) viz., *Śabda, Sparasa, Rupa, Rasa* and *Gaṅdha*, cannot be understood without the grosser *Guṇa* or principles to evolve from the subtler aspects. Even in the process of *Pralaya* (dissolution) of the *Śrsti*, it is said that *Vyakta* (gross) principles will converge into *Avyakta* (subtle) state.

Caraka terms the state of conglomeration of 24 principles as *Caturviṁsatika Puruṣa*. Man is also termed as *Sadhātu Puruṣa* as he is the protect of six elements viz. *Ātmā* and *Pancabhuta*.

Puruṣvicaya i.e., eco-self or universe-individual relationship presented by Caraka illustrates the theory of inseparable relationship between man and his environment and their essential nature of co-existance. Knowledge of this relationship is vital in understanding the true nature and limitations of man.

***Ātmā* (self)** : The concept of *Ātmā* occupies a very important place in Āyurveda. In an embodied state this *Ātmā* is termed as *Dehagata Ātmā* (embodied self). In the

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१. पुनश्च धातुभेदेन .... प्रकृतिश्चाष्टधातुकी ।। (च.सं.शा १–१७)
इति क्षेत्रं समुद्दिष्ट .... क्षेत्रस्य क्षेत्रज्ञमृषयो विदुः ।। (च.स.शा १–६५)

२. जायते बुद्धिरव्यक्ताद् .... जातोभ्युदित उच्यते । (च.स.शा. १–६६)

३. खादीनीति खादीनी...................तथैकादशेन्द्रियाणी ।
(च.स.शा. १–६६ (चक्रपाणी टीका)

४. तत इति आहंकारिक्कार्यानन्तरं ....स्थूलभूतसंबन्धात् ।।
(च.स.शा. १–६६ (चक्रपाणी टीका)

context of the universe, Ãtmā is termed as *Paramātma* (universal self). *Dehagata Ātmā* is the master of body as is *Paramātmā* to universe.

The embodied *Ātmā* who is called *Kartā* (doer) and *Bhokta* (experiencer)[1] is understood by *Lakṣaṇa* like *Prāṇa* (inspiration) *Apāna* (expiration) *Unmeṣa-Nimeṣa* (blinking), *Sukha* (pleasure), *Dhukha* (pain), *Iccha* (desire), *Dveṣa* (dislike), *Preraṇā* (induction), *Prayatna* (effort), *Buddhi* (decision), *Manas* (psyche), *Saṅkalpa* (resolution), *Vicāra* (thought), *Smṛti* (memory), *Vijñāna* (science), *Dhṛti* (control), *Cetanā* (awareness), *Svapna Deśāntaragati* (travelling to far off places in dreams)[2]. Though these *Lakṣaṇa* of *Ātmā* exert influence in the evolution of *Prakṛti* of an individual even from the embryonic stage, the *Lakṣana* are realized only when *Manas* is yoked with *Ātmā* on the one hand and *Śarīra* on the other. Among these *Lakṣana, Iccha, Dveṣa, Prayatna, Buddhi* denote *Kartrtva* and *Sukha* and *Dukha* denote *Bhokṭrtva* of *Ātmā*. The fact is that only during the associated state of *Manas* with *Ātmā* the later will be known either *as Kartā* or *Bhoktā* or both. In other words *Ātmā* is the knower or doer, while *Manas* functions representing *Ātmā*.

According to Āyurveda *Āyu* is a continuous phenomenon. Its natural end comes only at the point of total exhaustion of *Karmaphala* on the one hand and absolute freedom of *Dehagata Ātmā* from *Rājas* and *Tamas*, on the other[3]. Thus when *Ātmā* transcends the bondage of *Manas* totally and is directed towards *Paramātmā* perception of the past, the present and the future will become possible[4].

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१. अचेतनं क्रियावच्च मनश्चेतयिता परः। युक्तस्य.............
.................अचेतनत्वाच्च मनः क्रियावदपि नोच्यते।

(च.स.शा. १–७५ एवं ७६)

यथ स्वेनात्मा .... प्राणी नड्यन्येअस्त्स्य तन्त्रकः। (च.स.शा. १–७७)
वशी तत् कुरुते कर्म यत् कृत्वा फलमश्नुते।
वशी चेतः समाधत्ते वशी सर्वे निरस्यति। (च.स.शा. १–७८)

२. प्राणापानौ निमेषाद्या जीवनं मनसे गतिः। ....धारणं च यत्।
देशांतरगतिः..........................सव्येनावगमस्तथा।
.................................शरीरं हिम गते तस्मिन् शून्यागारमचेतनम्।
पंचभूतावशेषत्वात् पंचत्वं गतमुच्यते।।

(च.स.शा. १–७०, ७१ से ७४)

३. मोक्षो रजस्तमोअभावात् ....सर्वसंयोगैरपुनर्भव उच्यते। (च.स.शा. २–१४२)

४. आत्मेन्द्रियमनोर्धानां सन्निकर्षात् प्रवर्तते।..........................मनसि स्थिरे। (च.स.शा. १–१३०)
निवर्तते तदुभयं वशित्वं चोपजायते। ....येगमृषयो विदुः।

(च.स.शा. १–१३६ एवं १४२)

When *Satva* becomes predominant and *Rajas* and *Tamas* get diminished, the attributes of *Ātmā* like *Sukha* (pleasure), *Dukha* (pain), *Iccha* (desire), *Dveṣa* (hatred) and others are removed facilitating the merger of *Ātmā* with *Paramātmā*. This is the state when the past actions are totally nullified[1].

The knowledge of *Ātmā* would provide a new outlook in the field of treatment. It helps one to think as to whether it is just sufficient to treat all the diseases with a view to only restore physical or mental health, and helps one to develop a sense of equanimity particularly when the drug treatment alone cannot bestow a complete relief. It would also aid the physician to make proper use of *Daivavyapaśraya Cikitsā* (divine therapy) which is he best measure of treatment in countering and depleting the *Karmaphala* which mask *Ātmā*. Certain physical and mental disorders which are not fully amenable to *Yuktivyapāsraya Cikitsā* (rational therapy) and *Satyāvajaya Cikitsā* (psycho behavioural therapy) indicate the necessity of understanding the importance of *Ātmā*. It will also be beneficial to develop a balanced out look in life and adopt measures to speed up the process of attaining the blissful state.

Definition of *Manovikāra* : A successful management of *Manovikāra* will not be possible unless its definition is well understood. *Manovikāra* generally refers to an abnormal condition related to mental functions. An Āyurvedic definition for this condition is wanting. The information available in the classics when compiled and collated makes it possible to formulate a dependable and useful definition of *Manovikāra*. Considering the six different aspects that merit careful consideration.

Manovikāra can be defined as an abnormal mental condition characterized by the (a) impairment of *Manahkarma* (general mental functions) viz., *Indriyābhigraha* (perception and motor control in the absence of organic problems), *Manonigraha* (mental control), *Ūha* (guess), and *Vicāra* (thought), and different aspects related to *Manas* viz., *Buddhi* decision, *Smṛti* (memory), *Sañjñājñāna* (orientation and responsiveness), *Bhakti* (desire), *Śīla* (habit and temperament), *Cestā* (psychomotor activity), and *Ācāra* (conduct), severally or in combination, (b) presence of *Alpasatva* (weak psyche) in the genesis of the illness, (c) vitiation of both *Śarīrika* and *Mānasadoṣa*, (d) involvement of both *Adhisthāna* (organs of genesis) viz., *Śarīrika* (body) and *Mana* (mind), or *Manas* alone, (e) classical identification of the

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१. वेदनानामधिष्ठानं मनो देहश्च सेन्द्रियः।
केशलोमनखाग्रान्नमलद्रवगुणैर्विना।
योग्र मोक्षे च सर्वासां वेदनानामवर्तनम्। ....मोक्षप्रवर्तकः।
आत्मेन्द्रियमनोथीनां सन्किर्षात् प्रवर्तते। .... मनसि स्थिरे।।

(च.स.शा. १–३६, ३८)

illness either as *Manasavikāra* or *Ubhayātmaka Vikāra* and (f) vitiation of *Manovahasrotas* in the *Samprāpti* (pathogenesis).

Caraka defines *Unmāda* as the unsettled condition of *Manas, Buddhi, Sanjñā, Smṛti, Bhakti, Śīla, Ceṣṭā, and Ācāra*. This serves as a prototype definition of all *Manovikāra* as well, since one or more of these aspects will get affected in all types of *Manovikāra*.

The presence of *Alpasatva*, vitiation of *Manovahasrotas*, involvement of Śarīra and *Manas* and their *Doṣa* all these are understood on the basis of the influence they exert on the above eight aspects at the stage of manifestation, progress, severity, and prognosis of the disease.

Classiciation of *Manovikāra*

Classification of diseases is an interesting area of study in Āyurveda. Diseases are classified on the basis of various aspects like *Nidāna* (aetiology), *Āśraya* or *Adhiṣthāna* (zone of origin or organ of genesis), *Sādhyāsādhyatā* (prognosis), intensity, *Doṣic* involvement, vitiation of *Srotas*, to mention a few.

Basically the diseases have been classified into three groups namely, *Nija* (endogenous), *Āgantu* (extraneous), and *Mānasa* (phychological). The classification appears to have been made on the basis of aetiology. *Nija Roga* are those which are generated due to irregular food habits and behavioural excesses factors like injuries, poison, fire, wind etc. *Manovikara* are those which occur due to accrual of undesired objects or loss the desired ones, resulting in the impairment of the two *Manodoṣa* viz. *Rajas* and *Tamas*.

On the basis of the zone of affliction, diseases are classified as *Śarīra* (physical), *Mānasa* (psychological), and *Dvayāśraya* (dual type). *Śāririka Roga* are those wherein physical aspects of the body are mainly affected. Examples are *Jvara, Atisāra* etc. *Mānasa Roga* are those wherein *Manas* is affected. Examples are *Kāma, Krodha* etc. *Dvayāśraya* or *Ubhayatmaka Roga* are those wherein both *Śārīrika* and *Mānasika* aspects are involved. Examples are *Unmāda, Apasmāra* etc.

Diseases have been further classified into two groups viz., *Vāta-Pitta-Kaphaja* and *Manodoṣaja Roga* based on the *Doṣa* involved in their genesis. On the basis of this description one more type wherein both *Śārīrika* and *Mānasa Doṣa* are involved in the genesis of a disease can be considered and this can be termed as *Ubhayadoṣaja* or *Sarīamanodoṣaja Vikāra*.

Summing up, it can be said diseases are called *Śarīrika Roga* on the basis of either *Nidāna* or *Āśraya* or involvement of *Tridoṣa* viz., *Vāta, Pitta* and *Kapha*, severally or in combination. Similarly some of the diseases are called *Manovikāra* on the basis

of their *Nidāna* or *Āśrāya* or involvement or *Dvidoṣa* viz., *Rajas* and *Tamas* severally or in combination. *Udhayātmaka Roga* are those where either both *Śarīrika* and *Mānasika Doṣa* are involved in the genesis of the disease.

These classifications are made only for facilitating better patient management. It is not possible to strictly categorize the disease as *Śarīrika* and *Mānasika* since diseases affect the living body which is a combination of *Śarīra, Indriya, Satva* and *Ātmā*, wherein even one of them is disturbed the others are also affected.

The sub-classification of some of the *Monovikāra* like *Umāda, Apasmāra, Madātyaya, Mūrcha,* to mention a few, have been described in the classics. It should be remembered that the term *Manovikāra* is used for both types of mental disorders like *Kāma, Krodha, Lobha* etc. as well as *Unmāda, Apasmāra, Mūrccha,* etc. wherein the clinical profile indicate the vitiation of *Manas*. However, the general classification covering all *Manovikāra* as given in the following pages, is a collection of the material collected from the different Āyurvedic classics.

***Bheda* (types) :** A critical study of the classical texts reveals that *Manovikāra* can be classified into the following groups :

1. *Mandodhisṭhita Manovikāra* (MMV)
2. *Udhayadhisṭhita Monovikāra* (UMV)
   - (i) *Manaḥ Śradhisṭhita Manovikāra* (MSMV)
   - (ii) *Śārīra Manodhisṭhita Manovikāra* (SMMV)
3. *Nānātmajamanovikāra* (NMV)

The first group of MMV refers of the emotional disturbances having *Manas* as their *Adhisṭhana*. They are caused due to the initial impairment of the *Manodoṣa*, viz. *Rajas* and *Tamas* and treated mainly with *Satvāvajaya Cikitsā* (psycho behavioural therapy) coupled with secondary drug therapy. These conditions are comparable to certain neurotic disorders.

UMV include conditions that are engandered on account of the impairment of both *Manodoṣa* and *Śārīrika Doṣa*. Since they are treated with measures comprising of drugs as well as *Satvāvajaya* termed as *Manovikāra*. They are treated with measures comprising of drugs as well as *Satvāvajaya* treatment with equal importance.

The first sub type of UMV namely, *Manaḥ Śārīradhisṭhita Manovikāra* (MSMV) consists of disorders which originate due to the impairment of *Manodoṣa* and subsequent secondary involvement of *Śarīradoṣa*. Although they present themselves

clinically as physical illness, they are relieved only when the causative emotional disturbances are treated with *Satvāvajaya* therapy. The role of drug therapy will be secondary in the management of these cases. These conditions can be compared to certain somatised neurotic or psychosomatic illnesses.

The second sub type of UMV namely, *Śarīra Manodhisṭhita Manovikāra* (SMMV) consists of mental disorders that are caused due to the primary impairment of *Śarīrika Doṣa* and subsequent involvement of *Manodoṣa*. Although they present themselves clinically with abnormal mental conditions they are treated mainly with drugs and selective *Satvāvajaya* mesures. These can be considered under psychotic disorders in general with certain exceptions.

Some of the conditions considered under *Nānātmaja Mano Vikara* (NMV) also will have the involvement of *Manodoṣa* viz. *Rajas* and *Tamas* (as in case of *Ubhayātmaka Manovikāra*) although they are caused exclusively by one of the three *Śārīrika Doṣa* viz. *Vāta, Pitta* and *Kapha*. They are treated with drugs as well as *Satvāvajaya Cikitsā* and hence can be considered under *Ubhayātmaka Manovikāra*.

Therefore, it would be appropriate to classify *Manovikāra* in Āyurveda into two main categories as listed below :

1. ***Manodhisṭhita Manovikāra* (MMV)/*Kevala Manovikāra* (emotional or neurotic disorders) :**

- *Kāma* (passion)
- *Krodha* (anger)
- *Lobha* (greed)
- *Irṣa* (envy)
- *Māna* (pride)
- *Mada* (arrogance)
- *Śoka* (grief)
- *Cittodvega* (anxiety)
- *Cintā* (worry)
- *Bhaya* (fear)
- *Harṣa* (exhilaration)
- *Viṣāda* (anguish)
- *Abhyasūya* (jealously)
- *Dainya* (meanness/inferiority complex)

2. ***Udhayadhisthita Manovikāra* (UMV)** : Dual type mental disorders-

(i) ***Manaḥśārīradhisṭhita Manovikāra* (MSMV)** : Mind-body type mental disorders/ somatised neurotic/psychosomatic conditions :

- *Sokaja Jvara* (fever due to grief)
- *Kāmaja Jvara* (fever due to passion)
- *Krodhaja Jvara* (fever due to anger)
- *Bhāyaja Atisāra* (diarrhoea due to fever)
- *Śokaja Atisara* (diarrhoea due to grief)
- *Śokaja Soṣa* (wasting due to grief)
- *Dvistartha Yogaja* (vomiting due to non agreeable object or *Chardi*)
- *Mānasa Arocaka* (tastelessness due to mental disturbance)

ii) ***Śarira Manodhisṭhita Manovikāra*** (SMMV) : Body mind type mental disorders:

- *Unmāda* (psychosis)
- *Apasmāra* (epilepsy)
- *Atatvābhiniveśa*
- *Aptantraka* (hysteria)
- *Aptanaka*
- *Mada* (intoxication)
- *Mūrchha* (fainting)
- *Sanyāsa* (coma)
- *Madātyaya* (alcoholism)
- *Viṣaja Unmāda* (toxic psychosis)
- *Jalasantrāsa* (hydrophobia)
- *Aśabdaśravana* (auditory hallucination)
- *Tama* (withdrawal)
- *Bhrama* (confusion)
- *Atiyralpa* (prating)
- *Asvapna* (insomnia)
- *Anāvasita Cittathva* (fickleness)
- *Tandra* (stuper)
- *Nidradhikya* (hyperosomnia)

***Nidāna* of *Mānasaroga* (aetiology)** : According to Āyurveda, if the individual leads a life that is *Hita* and *Sukha* by following the various principles that are enunciated, there is no fear of disease. The external/environmental factors become secondary in the disease production. In fact they will be in harmony if individuals lead *Hitāyu*. Therefore while considering the *Nidāna* of disease, emphasis is laid on the individual's own contribution rather than extrinsic causes. In other words the *Nadāna* of disease, emphasis is laid on the individual's own contribution rather than extrinsic causes. In other words the *Nidāna* of disease in Āyurveda are mainly individual oriented or self related. With this in view, *Asatmyendriyarṭhasaṁ Yoga* (non homologatory contact of senses), *Prajñāparāda* (volitional transgression/ error of judgement), and *Parināma* (changes in season) have been considered under the three types of general aetiological factors for disease production[1]. These *Nadāna* hold good for *Manovikāra* as well. These have been described as overuse, misuse, and disuse in relation to *Indriya* (senses), *Artha* (objects), *Karma* (activties), and *Kāla* (season). Thus, with reference to the sense of vision, it is overuse togaze inordinately at excessively luminous objects, it is disuse not to look at anything and remain in darkness while it is misuse to gaze at objects that are either too close or too remote, frightful, prodigious etc. Similarly the *Ati* (excessive), *Hīna* (insufficient), and *Mithyā* (erratic) transactions in respect of other senses also should be understood.

Karma (action) comprises activity of speech, mind and body. Excessive action of any one of these in overuse with reference to it, while their total lack of action is disuse. Misuse with reference to body action includes forced suppression or expression of natural urges, body movements etc. Similarly, misuse with reference to *Manas* consists of giving way to fear, grief, anger, greed, infatuation, self conceit, envy, etc.

In respect of *Kāla* (season), it is said that if a season is marked with exaggeration of its characteristics, it is spoken of as seasonal excess. If it is marked with a deficiency of its traits, it is spoken of an seasonal deficiency and if the season is marked with traits that are contrary to its ture nature it is spoken of as seasonal abnormality.

Śusruta recognises emotions like *Krodha*, *Śoka*, *Bhaya*, *Harṣa*, *Lobha*, *Kāma* etc. as the causes of *Manovikāra*. These emotions are broadly classified under *Iccha* (like) and *Dveṣa* (dislike)[2]. Caraka on the other hand observes the accural of

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१. तत्र खल्वेषां द्वायानामपि दोषाणां त्रिविधं प्रकोपणं;
यद्यथा–असात्म्येन्द्रियार्थसंयोगः, प्रज्ञापराद्यः परिणामश्चेति। (च. स. वि ६–६)

२. मानसास्तु क्रोधशोकभयहर्षविषादेर्ष्याभ्यसूयादैन्यमात्सर्यकामलोभप्रभृतय
इच्छाद्वेषभेदैर्भवन्ति ।। (सू.स.सू. १–२४ (३)

undesired objects and not getting the desired ones as the cause of *Manovikāra*[1]. Besides these aspects, *Alpasatva*[2] (weak psyche) has also been recognised as a necessary predisposing factors for the manifestation of *Manovikāra*.

It is worthwhile studying *Nidāna* in relation to *Āhāra, Vihāra, Srotoduṣti* etc, wherever possible, for better management. It is also to be remembered that some of the *Nidāna* are causative ones and some are precipitatory. Thus *Alāsatva* and emotional factors should be considered as *Nidāna* of *Manovikāra* in general. Elimination of *Nidāna* is the treatment in short says *Śusruta*. Therefore, knowledge of *Nidāna* is essential in treatment. It also helps in devising effective preventive strategies for some of the *Manovikāra* as well.

Samprāpti (pathogenesis) :This refers to the process of diseases production and manifestation. On the basis of the classical descriptions the *Samprāpti* if *Mabivujāra* can be described as given below :

- **MMV** : *Alpasatva* + *Mithyāvihāra* → *Manodoṣakopa* → *(Śarīradoṣakopa)* ← *Manovikāra* ← *Manasakarmavikṛti* ← *Manovahasrotoviagunya* ← *Pradurbhava*.
- (i) **MSMV** : *Alpasatva* + *Mithyāvihāra* + *(Mithyāhāra)* → *Śarīardoṣakopa* ← *Manovikāra* ← *Mānasakarmavikṛti* ← *Manovahasrotoviagunya Pradhurbhava*.
- (ii) **SMM** : *Alpasatva* + *Mithyāhāra* + *(Mithyāvihāra)* → *Śarīardoṣakopa* ← *Manoroga* ← *Manovahasrotoviagunya* ← *Manodoṣakopa* ← *Manasakarmavikṛti* → *Pradhurbhava*.

Although *Samprāpti* takes place generally in the above manner, it is to be remembered that depending on the strength of the aetiology, degree of *Alpasatva*, involvement of *Oja*, and the extent of *Manovahasrotoduṣti*, the order of *Samprāpti* may have slight variations even within one type of *Manovikāra* in different individuals.

Lakṣana **(signs and symptoms)** :These are the clinical signs and symptoms of the manifest illness. *Sāmānyalakṣana* are general/common cardinal clinical symptoms and *Viśeṣalakṣana* are specific clinical signs and symptoms peculiar to a particular type of the disease. For most of the physical disorders *Sāmānya* and *Viśeṣa Lakṣana*

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१. मानसः पुनरिष्टस्य लाभाल्लाभाच्चानिष्टस्योपणायते। (च.स.सू. १–४५)

२. तैरल्पसत्वस्य मलाः प्रदुष्टा............................ प्रमोहयन्त्याशु नरस्य चेतः। (च.स.सू. ११–४७)

are described. In case of *Manovikāra*, only diseases like *Unmāda, Apasmāra, Atatvabhiniveśa* and a few other have detailed descriptions of signs and symptoms. For certain other conditions like *Udvega, Visāda, Kāma, Śoka, Bhaya,* etc. signs and symptoms have not been described.

However, on the basis of classical and other references and clinical observations, signs and symptoms can be worked out for the conditions which lack of the details of their symptomatology in the texts. For example, *Udvega* and *Viṣāda* have the following *Lakṣana*.

Udvega Lakṣana : *Bhaya* (fear) *Asthairya* (diffidence/lack of resolution), *Vepathu* (tremor) *Hṛtkampa* (palpitation), *Śīghrakopa* (irritability/short temper), *Svedabadhula* (excessive sweat), *Tṛtbahula* (excessive thirst), *Mukhaśoṣa* (dryness of mouth), *Galaśoṣa* (dryness of throat), *Vakṣoparodha* (chest constriction) etc.

Viṣāda Lakṣana : *Viṣāda* (sadness) *Utsāhanaśa* (loss of enthusiasm), *Śoka* (grief), *Āśābhanga/Nirāśā* (frustration/pessimism), *Apravartana* (lack of motivation/ initiation), *Anannābhilaṣa* (not interested in food), *Alpavak* (reduced speech), *Alpacestā* (reduced psychomotor activity), *Anidra* (sleeplessness) *Sāda* (fatigue), etc.

In *Manovikāra*, the clinical signs and symptoms presented due to the impairment of *Manas, Buddhi, Smṛti, Sañjnājñāna, Bhakti, Śīla, Ceṣtā* and *Acārā*. severally or in combination, can be considered under *Samanya Lakṣana. Viṣeśa Lakṣana* are those which are caused due to the specific impairment of one or more of them. However, in *Manovikāra* it will not be easy to differentiate between *Sāmānya* and *Viśeśa Lakṣana* as the different aspects of *Manas* involved are so interlinked that the signs and symptoms are presented generally as a combined effect of these aspects.

Manaḥparīkṣa **(Āyurvedic Mental Status Examination - AMSE)** : As stated earlier, *Manas* is a subtle entity beyond sensory perception, whereas the tools of clinicial examinations are limited to sensory transactions. The various clinical examination scheme like *Trividha Parīkṣhā, Daśavidha Parīkṣā, Aṣtasthānaparīkṣā* (three fold, ten fold, eight fold clinical examinations) and *Nidāna Pañcaka* (the five aetio-diagnostic factors) described in the classics do not apply with the same force as they do while examining a physical disease.

Caraka's description about the examination of certain mental aspects by *Anumāna* (inference) like *Vijñāna* (understanding) by *Vyavasāya* (purposeful nature of action), *Dhairya* (courage) by *Aviṣāda* (fortitude), *Rajas* (passion) by *Saṅga* (attachement), *Prīti* (pleasure) by *Toṣa* (sense of satisfaction), *Śoka* (grief) by *Dainya* (helplessness), *Bhaya* (fear) by *Viṣada* (anguish), etc. are very brief and hence inadequate.

In view of this situation, the Āyurvedic Research Unit, CCRAS, NIMHANS, Bangalore has prepared a detailed scheme of mental examination on Āyurvedic basic concepts and Caraka's definition of *Unmāda* (Ramu *et al.*, 1980), given as the Appendix with this book.

***Manovikāra Cikitsā* (treatment of mental disorders)** : Āyurvedic treatment for the mitigation of the disease has always been through holistic approach. Āyurveda recommends three types of *Cikitsā* for treating mental illness as mentioned below[1] :

***Daivavyapashraya Cikitsā* (divine therapy) :** This refers to measures like *Mantra* (incantation), *Auṣadi* (tying of herbs), *Maṇi* (wearing gems), *Maṅgala* (propitiatory rites), *Bali* (oblations), *Homa* (sacrifice), *Upahāra* (offerings), *Niyama* (vows), *Prāyascita* (ceremonial penitence), *Upavāsa* (fasts), *Svastyayana* (prostration), *Pranipāta* (surrender), *Gamana*[1] (pilgrimage), etc. These are recommended in mental disorders caused by *Agantu* (extraneous) factors and administered judiciously after considering the nature, faith, religiousity, culture and educational level of the patient. This may also be useful in other types of *Mānasikavikāra*.

***Yuktivyapashraya Cikitsā* (rational therapy) :** This refers to use of *Āhāra* (diet), *Auṣadha* (drugs) and *Vihāra* (behavioural activities). Under *Āhāra*, it is interesting to note that different food article like *Ksīra* (milk). *Ghṛta* (ghee), *Drākṣa* (grapes), *Panasa* (jack fruit), *Manḍūkaparnī* [*Centella asiatica* (Linn.) Urban], *Brāhmī* [*Bacopa monnieri* (Linn.) Pennell], *Mahākuṣmānḍa* (ash gourd) *Kapittha* (wood apple), *Matuluṅga* (*Citrus medica* Linn.), *Vāstuka* (goose foot), *Kākamāci* (*Solanum nigrum* Linn.), *Mahiṣa Māmsa* (buffalo meat), *Sarpa Māmsa* (snake meat), *Kūrma Māmsa* (tortoise meat), *Brahi Mamsa* (peacock meat), and others are recommended as beneficial in various mental disorders. Thus the descriptions available in the classics on *Āhāra* particularly in relation to mental disorders are worthy of scientific study.

Under drug therapy, it is said that most of the mental diseases where *Vāta*, *Pitta*, and *Kapha* are deranged, *Doṣa Śodhana* or *Srotasuddhi* (elimination of *Doṣa* or clarifying pores) has to be done by adopting various *Śodhan* (purificatory) measures. When the *Śodhana* is properly done, *Śamanoṣadha* (palliatives) and *Rasāyana* (tonics) are given. Later on *Satvāvajaya* (psycho-behavioural) measures are adopted in order to bring back the deranged *Manas* to normalcy.

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१. मानसं प्रति भैषज्यं त्रिवर्गस्यान्ववेक्षणम् ।
तद्विद्यसेवा विज्ञानमात्मादीनां च सर्वशः ।। (च.स.सू. ११–४७)

२. तत्र दैवव्यापाश्रयं–मंत्रौषधि..........................स्वस्त्ययनप्रणिपातगमनादि । (च.स.सू. ११–५४)

The following are some of the *Upakarma* (treatment processes), *Rasāyana* and *Auṣadha* that are being administered in treating various mental disorders :

1. Treatment processes

i) *Virecana* (purgation)

ii) *Vasti* (enema)

iii) *Nasya* (nasal instillation)

iv) *Abhyaṅga* (aneling)

v) *Takra /Kṣīra/Taila/Kaṣaya - Dhārā* (streaming of medicated butter milk/ milk/oil/decoction) on the forehead of the patient.

vi) *Mastiṣka/ Shirolepa* (application of medicated wet cakes on the head/ vertex).

2. Rasayana and *Auṣadha* : *Asvagandhā Rasāyana, Kuṣmānda Rasāyana, Śatāvaṛi Rasāyana, Brāhmī Rasāyana, Cyavanaprāśa Rasāyana, Brāhmī Ghṛta, Mahākalyaṇa Ghṛta, Narasiṁha Ghṛta, Tikata Ghṛta, Dhānvantara Ghṛta, Dhatrī Ghṛta, Sarasvatāriṣta, Ashvagandhāriṣta, Sārasvata Cūrṇa, Smṛtisāgara Rasa, Caturmukha Rasa, Mānasamitra Vati, Brāhmyādiyoga, Sarpagandhādiyoga, Sarpagandhā Ghana Vatī, Apatantrakāri Vatī, Māmsyādi Kvātha, Brāhmī Vatī, Vātakulāntaka Rasa, Caturbhuja Rasa, Yogendra Rasa, Brāhmī, Jatāmānsī, Tagara, Vacā, Dhānvantara Taila, Nārāyaṇa Taila, Kṣīrabalā Taila, Balādhatryādi Taila, Himasāgara Taila,* and others.

3. *Satvāvajaya Cikitsā* (psycho-behavioral therapy) : The aim of this therapy is to restrain mind from desire for unwholesome objects. This is achieved by increasing *Satva* to subdue the exaggerated *Rajas* and *Tamas*.This permits considereing occupational, bahavioural and like therapy as well since ultimate aim of these therapies would also be to restrain mind from unwholesome objects. Emphasizing on the need of compassion and a positive attitude towards the patient in administering *Satvāvajaya* measures, it is said that the patient should be calmed down with words of religious and moral import by his well-wishers who know him intimately. The best approach to achieve the goal of *Satvājaya Cikitsā* as mentioned earlier, is through *Jñāna* (knowledge of self), *Vijñāna* (professional/analytical knowledge,), *Dhairya* (confidence), *Smṛti* (scriptural wisdom) and *Samādhi* (concentration), according to Caraka.

Mental disorders caused by *Kāma* (excessive desire), *Śoka* (grief), *Bhaya* (fear), *Krodha* (anger), *Harṣa* (delight), *Irṣa* (jealousy), *Moha* (greed), should be countered by inducing the opposite emotions in order to neutralize the causative ones.

The above approaches can be said to more useful in certain MMV (*Manodhisṭhita Manovikāra*-neuratic/emotional disorders) when judiciously adopted. Certain other *Satvavajaya* measures like calming down the patient with shock by announcing the loss of something he holds dear or showing some wonderment or threatening by physical torture have also been mentioned. These are useful in certain SMMV (*Śarīra-Manodhisṭhita Manovikāra*). The underlying principle is to create fear of physical torment which the patient may not like bear, and fear of death, which is the strongest of all fears, in order to provide insight to the patient to regain mental equipoise. These are more applicable in excitatory conditions where disciplining the patient becomes unavoidable. Needless to add that these measures were told centuries ago considering the conditions that prevailed and means that were considered effective in that society. We may modify them suitably and perhaps find their underlying principles useful even today.

The descriptions available to *Satvāvajaya Cikitsā* enable one to classify this therapy in two types as participatory and prescriptive. In the first type of therapy is administered with the active involvement of the patient who desires to be benefited by the therapy. In the second type, the patient will generally remain a passive participant often not concerned about the advantages of the threapy given by the physician. The first type is more suitable in conditions under MMV and MSMV types and the second will be suitable in conditions under SMMV. It is given to the physician to use these approaches suitably in combination as appropriate to the patient for getting the desired results.

***Manovikāranutpadana* (preventive measures)** : In support of its concepts on preservation and promotion of health and prevention of illness, Āyurveda lays due stress on various measures to be adopted in order to promote mental health and prevent mental disorders. These measures find lucid description in the chapters devoted to *Dinacaryā* (daily regimen), *Retucaryā* (seasonal regimen), *Sadvṛtta* (code of virtues), *Roganutpadana* (prevention of diseases) and *Annapānavidhi* (rules pertaining to food and drinks), in the classics of Āyurveda.

In order to be free from mental disorders, Āyurveda prescribes that one should not allow oneself to become a victim of impuleses like, greed, grief, fear, anger, jealousy, impudence, vanity etc. Further, it declares that, one who speaks truth, refrains from over indulgence in alcohol and meat, hurts none, avoids overtrain, fair spoken, always compassionate and given to wholesome eating, would enjoy the benefits of sound mental health.

In fact, it would only be appropriate to consider the Āyurvedic view points in this regard as a socio-moral value system which if adopted with modifications to suit our needs without digressing from the core of these concepts, would be of great aid in warding off many a mental disorder, and promote the mental potentialities of

mankind. It would also richly contribute in preventing and treating many psychosomatic conditions like peptic ulcer, bronchitis, blood pressure, eczema and diabetes, to mention a few.

All these measures are aimed at bestowing *relaxation* and *mental equipoise* which are the basic prerequisites of a sound mind. They are particularly relevant to our times when we are forced to battle continuously against stress and strain for our very survival. Summing up, Vāgbhata states that one who regularly introspects one's down to dusk interactions with fellow beings surroudndings, will never become sorrowful and enjoys perennial happiness.

ĀYURVEDIC CONCEPT OF *UNMĀDA* AND VARIOUS ASPECTS

General views : *Unmāda* is the most elaborately dealt with *Mānasavyadhi* in Āyurveda. Caraka, the celebrated authority on internal medicine considers under the eight *Roga* (diseases) originated at the time of *Dakṣayajña*. He deals with the subject in the sections on *Nidāna* (diagnosis) and Cikitsā (treatment) in his famous treatise, Carakasaṃhitā. Vāgbhata, following Śusruta, describes *Unmāda* in Uttarasthāna (the concluding section) of his treatises Aṣṭāngasaṅgraha and Aṣṭāngahṛdaya after the chapters on *Graha* and *Bhūta Cikitsā* (diagnosis and management of diseases originated due to astronomical and other non human influences). Like *Jvara, Prameha, Kuṣṭha,* and others, *Unmāda* is also caused on account of *Mithyāhāravihāra* (unwholesome food and improper psycho-behavioural activities) which impair the three *Doṣa* viz., *Vāta*, *Pitta* and *Kapha*. In *Unmāda, Manas* or *Mānasadoṣas* viz., *Rajas* and *Tamas* are also affected to such an extent that the treatment administrated to restore *Tridosa* imbalance alone may not be sufficient. Certain measures to correct the *Mānasadoṣa* involved will also be essential to bring the patient back to normalcy. Therefore, *Unmāda* assumes a place of greater importance.

From the above, it becomes clear that, it is appropriate to study *Unmāda* under *Kāyacikitsā* (internal medicine) although some Āyurvedic scholars consider it under *Bhūtavidyā* (demonology). In fact all *Mānasa-Vikāra* can be considered under *Kāyacikitsā* which aims at correcting the *Doṣic* imbalance. However *Unmāda* caused due to *Āghāta* (injury) which may require surgical treatment may have to be considered under *Śalyatantra* (surgery).

Caraka's definition of *Umāda* with its global meaning, applies to all *Mānasavikāra* since there is no *Mānasavikāra* wherein one or more of the eight aspects in the definition are not affected. Therefore, *Unmāda* will have to be thoroughtly studied in order to understand any other *Mānasavikāra* described in Āyurveda.

Vyakhyā **(definition)** : *Unmāda* is a *Mānasavikāra* (mental disorder) caused due to the vitiated *Śārīrika* and *Mānasadoṣa* with a mounting upward pressure and manifesting as the unsettled condition of *Manas* (mind), *Buddhi* (decision),

Sanjñājñāna (orientation and responsiveness), *Smṛti* (memory), *Bhakti* (desire), *Śīla* (habit, temperament), *Cestā* (psychomotor activity) and *Acāra* (conduct). This can be composed with psychotic conditions in general on the bases of clinical features in the patients.

***Unmāda Nidāna* (aetiology)** : *Sāmānya* (general) and *Viśeṣa* (specific) *Nidāna* (aetiological factors) have been separately described for *Doṣaja Unmāda* and *Āgantu Unmāda*. The different aetiological factors can be classified into different categories like, factors related to *Āhāra* (food) and *Vihāra* (psycho-behavioural activities), those affecting bodily *Doṣa* like *Vāta*. *Pitta*, and *Kapha* and *Mānasa-Doṣa* viz., *Rajas* and *Tamas*, those which are *Sannikṛṣṭa* (immediate/recent) and *Viprakṛṣṭa* (remote), *Bhahya* (external) and *Abhyantara* (internal), etc., for facilitating better managment. It is also necessary to consider those factors which have been termed as *Apathya* (contra-indications) in *Unmāda* while studying its aetiology.

Sāmānya Nidāna

- *Bhīrutā* (timidity)
- *Upaklista Satva* (agitated/disturbed mental state).
- *Kāmakrodhalobhaharṣabhayamohāyasāhokacintaud-Vegadhibhih Abhyahatamana* (mind afflicted by passion/anger/greed/exhilaration or excitement/fear/infatuation/weariness/grief/anxiety etc).
- *Vyadhivegasamubhrama* (perturbation due to the severity of a disease).
- *Abhighātabhyahata* (mental disturbance caused due to trauma).
- *Devagurudvijapradharshana* (distrespect to gods/teachers/twiceborn learned).
- *Pūjavyatikrama* (deviation from the method of worship).
- *Viśamaśarera Cestā* (faulty bodily activity).
- *Utsānnadoṣa* (upmoving tiviated *Doṣa*).
- *Atyupakṣīnedṣa* (exceedingly emaciated body).
- *Samalovikṛtopahita Anuchitaviruddha Āhārasevana* (intake of unhygienic or unclean/stale or spoilt/adulterated/incongruous food).

***Samprāpti* (pathogenesis)**

The excited *Doṣa* of the individual with *Alpasatva* (weak psyche) mounting upwards through *Manovahasṛota* vitiate *Hṛdaya* which is the seat of *Buddhi* and disturb *Manas* which is located between *Śira* and *Tālu* and occlude *Manovahasṛota*. As a result, *Citta* is disturbed. This in turn causes loss of *Buddhi*. Due to this, the

individual loses the power of descrimination and indulges in faulty activities and this disturbed state is referred to as *Unmāda*.

***Samanya Pūrvarūpa* (general premonitory features)**

1. *Śirasahśūnyata* (emptiness in the head)
2. *Cakṣhorakulata* (restlessness of the eyes)
3. *Karṇasvaṇa* (sound in the ears)
4. *Uchvasādhikya* (hurried breathing)
5. *Asyasamsravanam* (dribbling of saliva)
6. *Arocaka* (testlessness)
7. *Avipāka* (indigestion)
8. *Anannabhilaṣa* (aversion to food)
9. *Hṛdgraha* (catching pain in the heart region)
10. *Asthana Āyāsa Sanmohadhyana Udvega* (fatigue confusion/mental absorption/ anxiety out of context).
11. *Atyutsaha* (over/enthusiam)
12. *Satatamlomaharṣah* (continued horripilation)
13. *Jvaraschabhikshnam* (frequent fever)
14. *Unmattachittatvam* (crazy mind)
15. *Udarditatvam* (pain in the upper half of the body).
16. *Arditakrtikaranam Cha Vyadheh* (appearance of features presented in facial paralysis (bell's palsy)
17. *Svapne Chabhikshnam Bhranta Chalitānavasthita Rūp Aniḍarsanam* (frequently dreaming of roving/moving/shaking forms).
18. *Svapne Tilapoedakachakradhi-Rohanam Bharamaschakragatosya Va* (dreaming of oneself mounting on the wheels of an oil press).
19. *Svapne Vātakundalikabhischonomathanam Majjānām Kuluṣamanbha Samavarta* (dreaming of oneself being churned by whirl-wind sunk in the whirlpools & dirty waters.
20. *Svapne Kaluṣabhojanam* (dreaming of eating dirty things).
21. *Chakṣuṣah Apasarpanam* (retraction of the eye balls).
22. *Gatranamapakarṣanam* (emaciation).

The prodormal features reflect the involvement of the individual's psychological, physiological and social aspects. It is interesting to note that many of the ***Pūrvarūpa***,

appear in dreams. Therefore, it would be worthwhile studying the dreams of even normal subjects so that it will become possible to detect the persons who might be vulnerable to get *Unmāda*. A thorough knowledge of *Sāmānyapūrvarūpa* would also aid forecasting the type of *Unmāda* that one might get even in the absence of *Viṣeṣapūrvarūpas* and help in taking preventive measures. It is however necessary to consider examples appropriate to contemporary life in place of classical ones, while understanding the *Pūrvarūpa* of *Unmāda*.

***Lakṣana* (clinical signs and symptoms)**

1. *Dhīvibhrama* (impaired intellect)
2. *Satvapariplva* (crazy/fickle mind)
3. *Paryākuladrasti* (agitated look)
4. *Adhīarata* (lack of courage)
5. *Abaddhavatktva* (incoherent speech)
6. *Hṛdayaśūnyatā* (vacuity in the heart).
7. *Na Sukham/Dukham/Dharmam/ Śantim/Acaram-Vindati* (does not understand pleasure/pain/righteousness/peace/conduct).
8. *Apasta Smṛti/Buddhi/Sajña* (deprived of memory/decision/orientation and responsiveness).
9. *Acintitarambha* (aimless activity)
10. *Dehadukha Sukha Bhrasto Bhrastasarathivadratha Bhramati* (forgetting pleasure or pain, wanders like a chariot without a charioteer).
11. *Vijñanabhrama* (distored understanding).

It will be clear from the above, that after *Sthānasaṁśraya* (final logement of *Doṣa* before the actual onset of illness) the involvement of *Manas* in relation to the individual's psychological and social behaviour will be complete at the stage of the onset of *Rūpa* unlike what would be at the *Pūrvarūpa* stage.

***Bheda* (types) :** In all 27 types of *Unmāda* have been described in the classics. They are *Vatonmāda, Pittonmāda, Kaphonmāda, Sannipatonmāda* (psychosis caused due to the discordance of all three *Doṣa*) *Adhija/Cittaja/Śokaja/Mānasa-Unmāda, Viṣajonmāda, Aganūnmāda/Bhūtonmāda (Deva, Pitta, Gandharva, Yakṣu, Rakṣana), Brahmarāksasa, Dānava, Piśaca, Sarpa, Kinnara, Gurusapajanita, Preta, Guhyaka, Vṛddhapuruṣakrodhaja, Siddhakrodhaja, Jaladeva, Kusmanda, Vetāla, Rṣishapadija,* and *Kṛtyonmāda*. Here only *Doṣaja Unmāda* have been discussed.

Vatonmāda* : *Nidāna

1. *Rūkṣana* (dry food)
2. *Śūtanna* (cold)
3. *Alpanna* (reduced eating)
4. *Vireka* (purging)
5. *Dhatukṣaya* (depletion of sustenance factors)
6. *Upavāsa* (fasting/starving)

These aetiological factors generally deplete the seven *Dhātus* (sustenance factors) and vitiate *Vāta.*

***Pūrvarūpa* (prodromal features) :** In the available classics we do not find the premonitory signs and symptoms for each type of *Doṣaja, Unmāda.*

***Samprāpti* (pathogenesis) :** *Vāta* is vitated by factors mentioned under *Nidāna*, affects *Hṛdaya* and rapidly disturbs *Buddhi* and *Smṛti* and produces *Vatonmada.*

***Lakṣana* (signs and symptoms)**

1. *Ajsram Parisaranam* (constant rambling).
2. *Akaṣmat-Akṣi/Bhrū/Oṣtha/Hanvagra/Hasta/Pada/Anga Vikṣepanam* (sudden jerking of the eye brows/lips/jaws/hands/feet).
3. *Satatam Aniyata Vāk (*continuous or excessive irregular or incoharent speech).
4. *Asyat phenagamanam* (frothing at the angles of mouth).
5. *Abhīkṣnamasthane Smita/Hasita/Nṛtya/Gīta/Vaditra* (excessive and/or inopportune smiling/laughing/dancing/singing/playing of music).
6. *Vīna/Vamśa/Śankha/Śamya/Tāla Śabdanukaranam* (imitation of sounds of lute/flute/couch/symbols of the left and symbols of right hand).
7. *Yānamayanaiḥ* (riding on objects which are neither mounts nor movable).
8. *Ālankārikāiralankaranam* (adorning person with unornamental things).
9. *Alabdheṣu-Abhyavaharyeṣu Tīvralobhah, Labdheṣu Abhyavaharyeṣu Tīvramatsarya* (craving for securing unobtainable things and hating/fealing offended when the things he is craving for are made available).
10. *Karśya* (emaciation).
11. *Paruṣyam* (rudeness).
12. *Utpinditakṣatā* (protruded eyes).

13. *Vātopaśayaviparyasadanupaśayita* (aggrevated by measures that are not antagonistic to *Vāta).*

14. *Asthāne Rodana* (inopportune crying)

15. *Arunavarnata* (coppery/browinish complexion)

16. *Jīrhebalam* (post digestion aggravation)

17. *Rukṣachavi* (dry skin)

18. *Dhamanītatah* (prominent veins)

19. *Shītatura* (affected by cold)

20. *Śurasatura* (affected by dyspnoea)

21. *Sphuritaṅga Sphuritasandhi* (throbbing of body parts/joints)

22. *Atana* (wandering)

23. *Vikroṣa* (shouting)

24. *Aruṇaksata* (coppery eyes)

25. *Aṅga asphotana* (sudden jerking of body parts).

Pittonmāda Nidāna, Samprāpti : *Ajīrna/Kaṭu/Amla/Vidāhī/Ashīta Bhojana* (consuming food which is difficult to digest/pungent/sour or fermented/causing acidity or burning sensation/not cool). *Pitta* accumulates due to the above factors and getting activated lodges in the *hṛdaya* of the undisciplined person and rapidly produces *Pittonmāda*.

Rūpa

1. *Amarṣa* (irritability)

2. *Krodha/Rośa* (anger)

3. *Asthane Samrambha* (imopportune excitement).

4. *Sveśam/Paresham Śastralostakuśakaṣthamustibhirabhihananam* (striking oneself/others with sharp weapons/brickbats/whips/sticks/fists).

5. *Abhidravanam* (excaping)

6. *Prachayabhilāṣa* (craving for shade, cool food, cold water).

7. *Santapaschativelam* (prolonged anguish)

8. *Tamrahaidraharitasamrabdhakshata* (coppery, yellow, green furious eyes).

9. *Pittopasyaviparyasadanupaśayah* (not relieved by measures that are non-alliviative of *Pitta*).

10. *Samrambha* (excitement)

11. *Vinagnabhava* (nudity)

12. *Ausṇya* (feeling of hotness/excessive body warmth).

13. *Atidhavana* (running about)

14. *Pītachabha* (yellowish aura)

15. *Tritsvedadahabhula* (intense thirst, perspiration and burning sensation)

16. *Bhahubhuk* (voracious eating)

17. *Vinidrā* (sleeplessness)

18. *Cayahimanilajalantavihasasevī* (prefering shade, cool breeze, water sources).

19. *Tīkṣńaḥ* (curt)

20. *Himambunicayepichavahnishankī* (doubts of fire/warmth even near cool surroudings).

21. *Divāpasayatinabhasi tarakamsca* (sees stars in the sky during day time)

22. *Santarjanam* (threatening)

23. *Asatyajvalajvalanatarakadīpadarṣanam* (seeing flame, fire, stars, lamps which are not present).

Kaphonmāda Nidāna **and** ***Samprāpti*** : Due to *Mandacesta* (reduced psychomotor activity/sedmentary habits), and consumption of food that vitiate *Kapha*, *Kapha* along with *Usṇa* (heat) gets increased in *Hṛdaya*, impairs intellect and memory, confound mind and causes *Unmāda*.

Rūpa

1. *Sthānamekadeśe* (confining to one place).
2. *Tūshnīmbhavaḥ* (lethery/silence/indifference/dejection).
3. *Alpaśhe schankramanam/alphaprachara* (moving very little).
4. *Lalasinghanakasravana* (dribbling of saliva, nasal discharge).
5. *Anannabhihaṣa* (disinclination for food).
6. *Rahaskamata* (like to be aloof/hidden/secretive).
7. *Bhībhatstvam* (clumsiness)
8. *Śoucadveṣa* (hatred towards cleanliness)
9. *Svapnanityatā* (sleeping always)

9 SEP200

10. *Svayathuscānane* (puffiness of face).

11. *Śuklasthimi Tamalopadigdhakshatā* (pallored, fixed, dirty eyes)

12. *Śleṣmopasayaviparyasadanupasayita* (not relieved by measures that are non-aviative of *Kapha*).

13. *Vākmanda/Alpakathana* (slowness of speech/short speech)

14. *Cestamanda* (slowness of activity)

15. *Arocaka* (tastelessness)

16. *Nārīpriyata* (fond of women/sex)

17. *Atinidrā* (hypersomnia)

18. *Chardi* (vomiting)

19. *Bhunktebalam* (post prandial aggravation)

20. *Nakhadishouklyam* (pallor of nail beds)

21. *Agisada* (weakened digestion)

22. *Sadana* (weakness)

23. *Kāsa* (cough)

24. *Alpamati* (mentally dull)

25. *Alpabhuk/Svalpaharah* (poor appetite/poor food intake)

26. *Uṣnasevī* (using hot things)

27. *Rātrau-bhrisambhavati* (aggravates during nights).

Sannipatonomāda : This is engendered due to the combined vitiation of all the three *Doṣa* and will have the signs and symptoms of the three *Doṣaja Unmāda* in part of full. A careful observation of the clinical signs and symptoms of *Doṣaja Unmāda* reveals that they directly reflect either the exaggerated or inhibited states of the *Guṇa* and *Karma* attributed to the *Doṣa*. Thus in *Vātaja Unmāda*, the qualities of *Vatadoṣa* viz., *Rūkshatva* (dryness), *Kharatva* (roughness), *Laghutva* (lightness) and many of the functions of *Vāta* are affected. Likewise *Tīkṣnatva* (sharpness), *Uṣnatva* (hotness) which are the qualities of *Pittadoṣa* and many of the functions of *Pitta* are affected in *Pittaja Unmāda*. *Gurutva* (heaviness), *Śītatva* (coldness), *Sthiratva* (stability), which are the qualities of *Kapha* are affected besides some of the functions of *Kapha* in *Kaphonmāda*. This understanding will be very helpful in correcting the *Doṣic* imbalance in the management of *Unmāda*. It will also facilitate to understand the changed clinical characteristics encountered these days due to the change in the life style, mental attitudes, social and spiritual practices, etc., in the patients of *Unmāda*.

Sādhyāsādhyatā **(prognosis)**

Unmāda caused by the discordance of one of the three *Doṣa* is said to be curable and that caused by the discordance of all the three *Doṣa* combined, to be incurable. *Unmāda* with premonitory signs and symptoms like reverie, anxiety, tiresomeness, inopportune excitment, weakness, confusion and lack of motivation, is said to will become fatal. *Unmāda* in a person who is weak, emacited, sleepless and indifferent even when scared with a sharp instrument, will be impossible to treat. He who dreams of bathing/dipping in a tank/lake/river along with *Rākṣasa* (wicked beings) would die of *Unmāda*, says Caraka.

Sāmānyacikitsā **(general line of treatment)**

Depending on the type and degree of *Doṣic* involvement, in *Doṣa Unmāda* initially *Śārīradoṣa Śodhana Cikitsā* (purificatory measures of the three bodily *Doṣa*, viz., *Vāta, Pitta* and *Kapha*) like *Vasti, Virecana, Vamana* and others are administered to eliminate the morbid *Doṣa* and therapy bring about *Manas Aḥpraśādana* (mental harmony). *Śamanouṣadha* (palliatives) and *Rasāyanas* (tonics) are administered after *Śodhana*, considering the patients condition in order to preserve and promote the poised state of mind.

The following processes/techniques have been recommended in the classics in the management of *Doṣaja Unmāda*.

1. *Snehana* (oleation)
2. *Svedana* (sudation)
3. *Vamana* (emesis)
4. *Virecana* (purgation)
5. *Nasyakarma/Avapīdana* (nasal instillation/nasal irrigation/errhines).
6. *Pradhamana* (snuffing)
7. *Snehavasti* (unctuous enema)
8. *Siravedha* (venesection)
9. *Abhyaṅga* (aneling)
10. *Pariṣeka* (streaming on head)
11. *Śirevasti* (retation of medicated oil on the head with the help of a cylindrical leather cap).
12. *Dhūpa* (fumigation)
13. *Dhūma* (smoking)

14. *Añjana* (collyrium)

15. *Anulepa* (painting)

16. *Pradeha* (plastering)

17. *Apatarpana* (depleting)

18. *Satvāvajaya Cikitsā* (psycho-behavioural therapeutic measures).

Picu (padding) which is one of the four types *Mūrdhinitaila* (oil application on head) is also popularly administered by the practicing Āyurvedic physicians in the management. The following are some of the popular classical single/compound drugs recommended in the management of *Unmāda* :

(i) Single drugs :

1. *Śaṅkhapuṣpī* (*Convolvulus pluricaulis* Choisy/*Clitoria ternatea* Linn.) 2. *Maṇḍūkaparṇī* [*Centella asiatica* (Linn.) Urban], 3. *Brāhmī* [*Bacopa monnieri* (Linn.) Pennell] 4. *Vacā* (*Acorus calamus* Linn. 5. *Jyotiṣmatī* (*Celastrus paniculatus* Willd.) 6. *Jaṭāmānsī* (*Nardostachys jatamansi* DC.) 7. *Kuṣṭha* (*Saussurea lappa* C.B. Clarke) 8. *Tagara* (*Valeriana wallichii* DC.) 9. *Pārasīkayavānī* (*Hyoscyamus niger* Willd.) 10. *Palāndu* (*Allium cepa* Linn.) 11. *Hiṅgu* (*Ferula foetida* Regel) 12. *Satāvarī* (*Asparaqus racemosus* Willd.) 13. *Āmalakī* (*Emblica officinalis* Gaertn.) 14. *Sarpagandhā* (*Rauwolfia serpentina* Benth. ex Kurz) 15. *Rasona* (*Allium sativum* Linn.) 16. *Devadāru* [*Cedrus deodara* (Roxb.) Loud.] 17. *Jatīphala* (*Myristica fragrans* Houtt.) 18. *Mocaka* (*Salmalia malabarica* Schott & Endl.) 19. *Karpūra* (*Cinnamomum camphora* Nees & Eberm) 20. *Harītakī* (*Terminalia chebula* Retz.) 21. *Vibhītaka* (*Terminalia belerica* Roxb.) 22. *Aśvagandhā* [*Withania somnifera* (Linn.) Dunal] 23. *Kūsmāṇḍa* (ash gourd) 24. *Hema* (gold).

ii) Compound formulations - a) *Ghṛta* (medicated ghee preparations) : 1. *Kalyāṇaghṛta*, 2. *Mahākalyāṇaghṛta*, 3. *Pañcagavyaghṛta*, 4. *Cetasaghṛta*, 5. *Mahāpañcagavyaghṛta*, 6. *Śivaghṛta*, 7. *Niśādighṛta*, 8. *Bhūtāravaghṛta*, 9. *Mahabhūtāravaghṛta*, 10. *Kṣīrakalyaṇaghṛta*, 11. *Siddhārthakaghṛta*, 12. *Tiktakaghṛta*, 13. *Phalaghṛta*, 14. *Brāhmīghṛta*, 15. *Dhatryādighṛta*, 16. *Jīvantyādighṛta*, 17. *Laśunādighṛta*, 18. *Vacādighṛta*, 19. *Hingvadighṛta* & 20. *Miśrakasneha*.

b) *Cūrṇa* (powders) : 1. *Sārasvatacūrṇa*, 2. *Drakṣādicūrṇa* & 3. *Kalyaṇacūrṇa*.

c) *Āsava/Ariṣta* (spirituous preparations) : 1. *Sārasvatāriṣta*, 2. *Bṛngarājāsava*, 3. *Drakṣariṣta* & 4.*Aśvagandhārista* etc.

d) ***Rasāuṣadha*** **(mercurial/herbomineral compounds) :** 1. *Candabhairavarasa*, 2. *Caturmukharasa*, 3. *Unmādagajakesarīrasa*, 4. *Unmādabhañjanarasa*, 5. *Unmādaparpatīrasa*, 6. *Sarveśvararasa*, 7. *Smṛtisāgararasa*, 8. *Manasamitravaṭī* & 9. *Muktāpiṣṭi*

e) ***Tailas*** **(medicated oils) :** 1. *Lakṣādi Taila*, 2. *Nirgundyādi Taila*, 3. *Candanādi Taila*, 4. *Śiva Taila*, 5. *Tuṅgadrumādi Taila*, 6. *Himasāgara Taila*, 7. *Bṛhdhātryādi Taila*, 8. *Triphalādi Taila*, 9. *Mañjiṣṭhadi Taila*, 10. *Candanādi Taila*, 11. *Bhṛgāmalakadi Taila*, 12. *Sahacaradi Taila* & 13. *Balāśvagandhalakṣādi Taila*

f) ***Guṭikā*** **(pills) :** *Śivāgutikā*

h) ***Vartis*** **(pencils) :** 1. *Maricādivarti* (Aj), 2. *Apāmārgādivarti* (Aj), 3. *Vyoṣādivarti* (Aj, Nv), 4. *Śirīṣādivarti* (Aj, Nv), 5. *Brāhmyādivarti* (Aj., Nv., Dp. Lp) & 6. *Kāyasthādivarti* (Aj).

i) **Others :** 1. *Pippalyādi Pradhamana* (Nv), 2. *Brāhmīrāsnādiyoga* (Pn, Aj, Nv), 3. *Srgaladiyoga* (Dp, Dm, Ab, Aj, Sn, Pd), 4. *Siddhārthāya* (Pn, Aj, Nv, Lp, Sn, Lp), 5. *Śallakyādiagada* (Nv, Dm, Sn, Aj, Nv), 6. *Kṛṣnādyanjana* (Aj), 7. *Dārvyādighutikanjana* (Aj), 8. *Mahadhūpa* (Dp), 9. *Nimbadatradidhūpa* (Dp), 10. *Maricādyanjana* (Aj) & 11. *Pundrīkṣvadinasya* (Nv),

Aj = *Añjana* (collyrium), Nv = *Nāvana* (nasal irrgation/sniffing), Dp = *Dhūpana* (fumigation), Dm = *Dhūma* (smoking), Lp = *Lepana* (painting), Pn = *Pāna* (oral intake), Ab = *Abhyanga* (aneling), Pd = *Pradeha* (plastering), Ud = *Udvartana* (massaging) & Sn = *Snāna/Seka/Pariṣeka* (bathing)

Viśeṣacikitsā **(Specific treatment)**

In order to correct the *Doṣic* imbalance, initially purificatory measures are recommended. These measures eliminate the morbid *Doṣa* causing occlusion of *Manovahasrota*. Once the *Manovahasrota* are clear, *Śamanauṣadha* (palliatives) and *Rasāyana* (tonics) are administered to establish *Doṣic* balance, easily. In the classics, specific treatments for different types of *Doṣaja Unmāda* have been described in detail, as given below :

Vatonmāda **treatment procedures** : *Snehapāna*, *Mrduśodhana*, *Samsarjana*, *Svedana*, *Nirūha*, *Śirovirecana*, *Dhūpana*, *Añjana*, *Dhūma*, *Lepana*, *Snāna*.

Medicines : *Kalyāṇaghṛta*, *Mahākalyāṇaghṛta*, *Phalaghṛta*, *Hingvādihghṛta*, *Mahāpaiśācakaghṛta*. *Laśunādighṛta*, *Vyoṣādivarti*, *Śirīṣadivarti*, *Apāmārgādivarti*, *Maricādivarti*, *Siddharthadyagada*, *Śallakyadyagada*, *Srgalādiyoga*, *Brāhmyādivarti*.

***Pittonmāda* procedures of treatment** : *Snehana, Svedana, Recana, Raktamoksaṇa, Samsarjana, Śirovirecana, Śīta/Madhura/Laghu-Annapāna.*

Medicines : *Tiktakaghṛta, Jīvanthyādighṛta, Miśrakasneha.*

***Kaphonmāda* procedures of treatment :** *Sneha, Sveda, Vamana, Recana, Śirorecana, Sansarjana, Śirobasti, Abhyanga, Dhūpana, Anjana, Dhūma, Pariṣecana, Pradeha, Dhmapana.*

Medicines : *Śrgalādiyoga, Kaṭu Taila.*

Pathyapathya in *Unmāda* (does and don'ts) :

***Pathya* (Doses) :** It is said that he who suffers from *Unmāda* should maintain cleanlyness and consume food and drinks that are relishing and easily digestible. The following articles have been recommended in *Unmāda* :

a) *Śākavarga* (vegetables), *Patola* (snake gourd), *Brāhmī* [*Bacopa monnieri* (Linn.) Pennell], *Kākamācī* (*Solanum nigrum* Linn.), *Vāstuka* (*Chenopodium album* Linn.), *Tandulīyaka* (*Amaranthus viridis* Linn.), *Kūṣmāṅda* (ash gourd).

b) *Dhānyavarga* (cereals/pulses) : *Rakta/Aruna-Śālī* (red rice), *Godhūma/Yava* (Wheat/barley), *Mudga* (green gram).

c) *Phalavarga* (fruits) : Drakṣā (grapes), *Panasa* (jack fruit), *Mātulunga* (*Citrus medica* Linn.), *Narikela* (coconut), *Kapittha* (wood apple).

d) *Mamsavarga* (meats) : *Mahiṣamāmsa* (buffalo meat), *Kūrmamāmsa* (tortoise meat), *Sarpamāmsa* (snake meat), *Caṭhakamāmsa* (sparrow meat), *Pikamāmsa* (cukko meat), *Barhimāmsa* (peacock meat), *Dhanvarasa* (meat/soup of animals of arid region).

e) *Gorasavarga* (milk and milk products) : *Kṣīra* (milk), *Navanīta* (butter), *Ghṛta* (ghee)

f) *Panīyavarga* (drinks/bevereges) : *Gangambu* (rain water), *Madya* (alcohol), *Rasāla* (sugarcane juice), *Kulmaṣatarpana* (gruel of *Kulmaṣa*).

***Apathya* (Don'ts)** : Over indulgence in meat, alcohol, sex, leafy vegetables, bimbee incompatible and stale food articles and rude acts. It is also necessary to consider the different food related aetiological aspects of *Unmāda* before suggesting the diet. The right kind of food or diet which is one of the three components of treatment acts as a tonic and an accentuator of drug action.

***Satvāvajayacikitsā* in *Unmāda* (psycho-behavioural measures)** : Although physical medicines are quite important in the management of *Doṣaja, Unmāda,*

Satvāvajayacikitā also plays a vital role in making the treatment more effective and preventing exacerbation or recurrence of the disease. The strategies indicated under this therapy are to be employed judiciously with modifications suited to our times considering the patients educational level, socio-cultural background, religiosity, economic status etc. The following are the strategies mentioned in the classics :

Vadha (beating), *Bandhana* (tying), *Avarodhana* (restraining) *Bhīshṇa/Vitrasana* (threatening/intimidation), *Vismāpana* (creating amazement), *Vismaraṇa* (making one to forget the cause of mental imbalace or distraction), *Āśvāsana* (assurance), *Cittaprasādana* (gladdening one's mind), *Dāna* (offering), *Harṣna* (including exhilaration), *Santvanā* (consiling) etc.

Some of these like, *Vadha, Bandha, Avarodha, Vitrasana* etc. are more beneficial in the management of SMMV type of *Ubhayātmaka Manovikāra*. They are generally intended to instill a sense of 'fear of life' or cause physical discomfort, so that the patient can forget the less painful factors that might have caused the illness and get a speedy recovery. *Āśvāasana* (assurance), *Vismarana* (distraction), *Cittaprasādana* (calming the mind), will be more beneficial in *Manoadhistitamānasavikāra* where the patients *Sanjñana* and *Indriyanirapekṣa Karma* of *Manas* are generally well preserved.

Further, it is said that the well wishers of the patient should console him with assurances and words of religious and moral import. *Satvāvajayacikitsā* is intended to withdraw mind from unwholesome objects. This is best achieved by the knowledge of self, scriptures poised dispositions, and spiritual concentration. Therefore, the physician should be conversant with the philosophical doctrines as well. Unless given in conformity with these principles the treatment would be incomplete and there could be recurrences of the disease. The contemporary psycho-therapeutic measures like behaviour therapy, occupational therapy, music therapy, meditation therapy, biofeedback, etc. can be considered under *Satvāvajayacikitsā* since these also enable mind to withdraw from unwholesome *arthas* of *Manas* which is very essential, if these measures are to be beneficial.

It is also said that the mental disorders caused by excessive *Kama* (passion), *Śoka* (grief), *Kordha* (anger), *Bhaya* (fear) etc., should be countered by their opposites. This area of treatment by opposite emotions which appears to be unique to Āyurveda, in the management of mental disorders, requires critical applied evaluation before its implementation since even a slight mistake can multiply the conflicts of the patient and thereby complicate the cases.

MODERN CONCEPT OF *UNMĀDA* (SCHIZOPHRENIA) AND VARIOUS ASPECTS

Concept of schizophrenia :

Schizophrenia is a severe mental disorder and in many ways a prototype of mental disorders as conceptualized in contemporary psychiatry. It has been recognised in its present day conception only about a hundred years ago. In 1890s, the German psychiatrist Emil Kraepelin gave the name 'dementia praecom' to a group of syndromes occuring in young people and generally ending in deterioration in the absence of a physical disorder to explain the same. Although he adopted the natural history criteria of deterioration for his classificatory strategy, he also emphasised the specificity of symptom picture "Dementia praecox consists of a series of clinical states which have as their common characteristic a peculiar destruction of the internal connections of the psychic personality with the most marked damage of the emotional life and of volition" (Kraepelin, 1913). The conception of the disorder remained essentially the same despite the change of name the schizophrenia by Bleuler, many dissatifactions and corresponding attempts at improvement over the following decades. The influential text book of Mayer-gross *et al.* (Slater and Roth, 1969) defined schizophrenia as "a group of metal illnesses characterized by specific psychological symptoms and leading, in the majority of cases, to a disorganization of the personality of the patient". The importance of specific symptoms may again be noted here. They want on to add that they "interefere with the patient's thinking, emotions, conation and motor behaviour, and with each in a characteristic way". How much importance should be given to the symptoms and which symptoms are essential remains a controversial issue to this day as may be seen from the on going revisions undertaken notably by the American Psychiatric Association and the World Health Organisation. Much of the confusion can be understood if it is realised that schizophrenia is a concept proposed, not an entity discovered, by Kraepelin. Under the given circumstances in the absence of a defining criteria, it is but natural that its boundaries and undertain and changeable. The 9th revision of the international classification of diseases (World Health Organisation, 1978) described by schizophrenic psychoses as follows :

"A group of psychoses in which there is a fundamental disturbance of personality, a characteristic distortion of thinking, often a sense of being controlled by alien forces, delusious which may be bizaree, disturbed perception, abnormal affect out of keeping with the real situation, and autism. Nevertheless, clear consciousness and intellectual capacity are usually maintained. The disturbance of personality involves its most basic functions which give the normal person his feeling of individuality, uniqueness and self direction. The most intimate thoughts, feelings and acts are often felt to be known to or shared by others and explanatory delusion, may develop, to the effect that natural or supernatural forces are at work to influence the schizophrenic person's thoughts and actions in ways that are often bizarre. He may see himself as the pivot of all that happens, Hallucinations, especially of hearing, are common and may comment on the patient or address him. Perception is frequently distrubed in other ways; there may be perplexity, irrelevant features may become all important and accompanied by passivity feelings, may lead the patient to believe that every day objects and situations possess a special, usually sinister, meaning intended for him. In the characteristic schizopherenic disturbance of thinking, peripheral and irrelevant features of a total concept, which are inhibited in normal directed mental activity, are brought to the forefront and utilized in place of the elements relevant and appropriate to the situation. Thus thinking becomes vague, ellipitical and obscure, and its expression in speech sometimes incomprehensible. Breaks and interpolations in the flow of consecutive thought are frequent, and the patient may be convinced that his thoughts are being withdrawn by some outside agency. Mood may be shallow, capricious or incongrouus. Ambivalence and disturbance of volition may appear as inertia, negativism or stupor. Catatonia may be present. The diagnosis "schizophrenia" should not be made unless there is, or has been evident during the some illness, characterestic disturbance of thought, perception, mood, conduct, or personality-preferably in atleast two of these areas. The diagnosis should not be restricted to conditions running a protracted, deteriorating, of chronic course".

Frequency : The morbidity load of schizophrenia in the general community is indixed by three important rates. The prevalence rate of the disorder can be stated only approximately. A review of the studies indicates that it is between a low of about 1 per 1000 and a high of 10 per 1000. It is generally opined that such high variation is simply methodological or definitional (Jablenski and Sartorius, 1975). The incidence rate is subject to even greater measurement error. Based on first admissions for a five year period in England and Wales a rate of 11 to 16 per 100000 was given (Hare, 1982). The rate of occurance that is specially important from the genetic point of view is morbidity risk. Also referred to as the life time risk and expressed as a percentage, it is the chance of any given individual in a population developing the illness sometime during the lifetime. The modibity risk of "conservatively diagnosed" schizophrenia across both sexes in the general population is estimated to be 1% (Gottesman and Shields, 1982).

Aetiology : The causation of schizophrenia is incompletely understood. Several factors-genetic, bio-chemical, developmental, familial, social, immunological-viral have been implicated. Currently, the evidence is strongest for the view that genetic disposition interacts with stress and results in schizophrenia via specific cerebral mechanisms. The risk factors may be listed as follows :

Age : The usual age of risk is 15 to 45, though a few patients may have the onset of their illness outside this range.

Sex : Both the sexes are equally affected, though in males and onset is comparatively earlier. Perinatal factors, pregnancy and birth complications are over represented in the case of schizophrenia patients. Season of birth studies found that there was an over representation of winter births. This has been viewed as consistent with a viraletiology. No viral agent, however, has been identified.

Genetic risks : Strong evidences in support of the genetic risk comes from three kinds of studies; twin, consanguinity, and adoption studies. Significantly higher concordant rates for schizophrenia in MZ twins as opposed to Dz twins, about 10-15% morbidity risk for persons having a schizophrenic first degree relatives, and high prevalence of the disorder in children born to schizophrenic mothers even when reared elsewhere are the important genetic observations. However, it is unknown as to what is the nature of the genetic factor, how it is transmitted, and what role it plays in the pathogenesis of the disorder (Gottasman and Shields, 1981).

Family environment factors : The personalities of the parents, intrafamily communication patterns, inter-generational influences etc. have been postulated but found only questionable empirical support. However, when the degree of emotion expressed is high (critical comments, expressed hostility and strong involvement) in the family, it does have a bearing on the schizophrenic patients behaviour and risk of relapse.

Social causation : The growing complexity of the civilization, urbanization, social isolation, lower social classes and occupations have all been suggested as important. None of them is a truely casual factor for the genesis of the disorder though they may influence the symptom profile, course of the illness, admissions to the hospital, etc. In the period immediately proceeding the illness acute stress excess of lip events seem to operate as contributory factors in a small proportion of cases.

Pathology

Neurobiological and bio-chemical abnormalities : Endo-genous neurotoxins, the production of psycho-tomimetics, and derangement of the various neurotransmitters/ neuropeptides, and alterations of different receptors in the brain have all been considered. Among them the one hypothesis that dominated this area is the

Dopamine hypothesis. Depite the many limitations, it has the merit of some empirical support and the capacity to explain at least some of clinical phenomena. There is an overall increase in dopaminergic activity, DA receptor supersensivity, and in some patients increased number of O_2 DA receptors. Less impressive evidence is there for disturbance of serotonia and norepinaphrine also (Meltzer, 1987).

Functional and anatomical abnormalities of brain : Neuropathological studies and C.T. Scan and M R I showed ventricular enlargement and cortical atrophy of the brain. Besides decreased the brain has abnormalities of architecture. P E T studies have indicated relative metabolic under activity of the frontal lobes of schizophrenics. There was also a corresponding pattern of regional cerebral blood flow. EEC and EP studies also demonstrate abnormalities of brain electrical activity. Abnormalities of the brain morphology and function are associated with poor functioning before the first psychotic episode, negative symptoms and poor response to antipsychotic drugs. It should be noted, however, that these observations do not apply to the many patients in whom schizophrenic psychopathology is reversible.

There are also some abnormalities of psychophysiology which promise to be trait markers i.e. indicators of vulnerability to schizophrenia. Eye movement dysfunction (related to disorders of non-voluntary attention in association with the brain areas subserving smooth pursuit and saccadic eye movements) and impaired vigilance (demonstrated on continuous performance test and the span of apprehension) are two such major candidates (Holzman, 1987).

Body type and premorbid personality : Leptosomatic (asthenic) and dysplastic physiques are over represented in schizophrenia patients. Some researchers have also found that these patients had smaller measurements than normals in stature, chest circumstances, hip circumference and diacromial diameter.

Linked to the body typology is the concept of schizoid constitution. Though upto half of the patients have unremarkable premorbid personality, others are suspicious oversensitive, reckless and callons, shy, delicate, accentric etc. They show a lack of feeling, a tendency to anegia, and social withdrawal.

Symptoms and signs : Though in a small proporation of patients the illness may be precipitated acutely (under physical or pshychological stress) the majority have an insidious onset. In the later there is often a prodromal phase characterised by poor functioning in studies, work, or social relations. There may be neglect of personal care, reduced/erratic foodintake, sleeplessness, perplexity, social isolation anheadonia (lack of enjoyment) and dysphoria (fears, sadness etc.). During this phase, there is a distinct change in personality, and disorganization of the previous level of functioning but in the absence of pshychotic phenomena.

Once the psychotic symptoms begin the picture is more dramatic and disturbing. The symptoms and signs can embrace practically all mental functions. Different patients have different combinations of symptoms. But according to Bleuler the following groups are fundamental, the hallmarks of schizophrenia i.e., loosening of associations, in appropriate affect, marked ambivalence and autisitic or dereistic, thinking and behaviour. The particular disturbances may be listed as follows :-

Loosening of association : The locial connections between successive ideas are missing or distorted to such an extent that communication is severely impaired i.e., the speech and writing become incomprehensible. The speech in incoherent, circumstantiality-unnecessary detoiers in speech resulting in failure to reach anticipated goal, word salad (jumbled up words with no meaning), neologisms (coining of new words or the use of existing words in a private idiosyneratic meaning), poverty of speech (very little speech).

Disturbance of thought content : Delusions of influence (passivity, control) ideas of reference; though withdrawal (alienation), delusions of thought broadcasting, thought insertion, delusions of persecution (or poisoning etc), sudden delusional idea, delusional perception, delusions of grandiotidy erotic delusionam hypochondriacal delusions.

Disturbances of affects : In appropriate affect (uncalled for under the circumstnaces), incongruous affect (lack of correspondence between thought and affect), made affect, flat (or blunted) affect, outbursts of anger and range, often without provocation,delusional mood; lack of rapport (there is a lack of emotional resonance and feeling of understanding in the subjective experience of the clinician interviewing the patient).

Disturbance of motor behaviour : Retardation (may become stupor), excitement (may involvesenseless violence), posturing, bizaree behaviour or mannerisms, stereotypies, perseveration, negativasm, automatic obedience, echolalia, echophrasia.

Disturbances of perception : Perceptions in any sensory modality can be affected by illusions, pseudohallucinations or true hallucinations. However, the more common the important ones are the auditory hallucinations which may be hearing one's own thoughts, running commentory or voices discussing (third person auditory hallucinations).

Disturbance of volition : Descreased drive resulting in failure of salf initiated, goat directed activity. There is therefore decreased work performance, non-attendence to daily chores. There is also embivalence and indecisivencess. Exceptionally there may be excessive, or bizarre activity. The frequency of symptoms in 306 concordant

schzophrenia (World Health Organisation, 1973) gives an idea of their relative occurance and importance.

Frequencies	Percentage
Lack of insight	97
Aduitory hallucinations	74
Ideas of reference	70
Suspiciousness	66
Flatness of affect	66
Delusional mood	64
Delusions of persecution	64
Thought alienation	52
Thoughts spoken aloud	50

Types : Depending on the predominent symptoms constellation hebephranic (thinking and affect disorders), catatonic (motor), paranoid (delusions, more commonly persecutory), and simple (social isolation and uneventful drifting and deterioration) types are recognised. There as well as other attempts at typology, are presenting without much significance aetiologically or therapeutically.

Diagnosis : Besides the presence of the more characteristic symptoms, it is also important to establish the absence of features characteristic of other syndromes for a confident diagnosis of schizophrenia. The conditions to be especially excluded are :

1. Drug induced pshychosis and alcoholic psychoses
2. Draganic conditions, the dementias, metabolic conditions, purperal infections, seizure disorders,especially temporal lobe epilepsy
3. Paranoid states
4. Affective pshychoses, both manic and depresive as well as the mixed affective states
5. Neurotic disorders (eg., depersonalization) and personality disorders
6. Mental retardation with behavioural disorder, and autistic syndrome.

Treatment : Rational treatment should address comprehensively and specifically to all the different aspects such as the family and social context, premorbid assets and liabilities, sensitivity of the psychosis with its biological and social consequences. The modalities of treatment are broadly (physical, psychological, and social). In the

acute psychotic phase, the sheet anchor or treatment is anti-psychotic drugs. Despite the availabiltty of several classes of drugs they can be considered together. The first among them chlorpromazine is still the standard against which all others are to be judged for efficacy and side effects. It is given orally or intramuscularly in a wide therpeutic ranges. An oral does of 400 mg. generally brings about control of the psychosis in the majority of the patients in 4 to 6 weeks. Details of the drugs, their dosage range, indications and contraindications may be easily obtained in text books of pharmacology as well as psychiatry.

The importance of the anti-psychotic drugs lies not only in controlling the acute psychosis but more importantly in controlling the condition in the long term. That is, regularly administered as maintenance therapy, they can effectively prevent the relapse of psychotic symtpoms in most of the schizophrenic patients. These drugs however, have their limitations. Some 20% of the patients do not respond and continue to have active psychotic symptoms. Secondly, they are ineffective against the deficit or negative symptoms (withdrawal, poor drive, poverty of speech, flat affect etc.) which persist chronically in upto one-third of the patients after the acute phsase, thirdly, they have several unwanted effects, especially abnormal involuntary movements (e.g. tardive dyskinesia) in small proporation of chronic patients. Electroconvulsive therapy (ECT) is another physical mode out currently reduced in importance and only sparingly used. Psychosurgery is practically given up as are many of the other older form of treatment.

Psychosocial therapies (individual psychotherapy), family, group, social skills, behaviour and many techniques of rehabilitation) are important in the chronic phase. Though time consuming and lacking in definitive technology, they are essential to reduce the consequences of handicaps and to restore adoptive role functioning.

Course and prognosis : The major part of deterioration occurs in the first five years after the onset and fortunately affects only less than half the patients (Bleuler, 1974). The majority of the patients remain well enough to cope with family and employment (social recogery or batter) atleast partially. The more acute the psychosis and the better the premorbid competence the better and prognosis. Symptoms generally have poor prognostic value. However, social withdrawal and flat affect porten poor octcome.

REVIEW OF PREVIOUS STUDIES

Earlier Āyurvedic scholars/researchers have been working in the field of *Manovikāra* psychiatric illnesses. Some of such wroks reviewed here under :

- Clinical studies,
- Experimental studies and
- Papers and books on concepts relating to *Manas* and *Manovikāra*

• **Clincial studies** : Hakim (1953), Soni (1955), and Rana (1956) have reported studies using Siledin a herbal compound in treating various mental disorders with favourable results. Kala (1961), also used Siledin in the management of 388 patients suffering from different mental disorders which also included 112 schizophrenia reaction type patients. For this particular category, the control group consisted of 30 cases. The effective reaction type (MDP) group consisted of 206 patients. The control group consisted 270 cases. The control group was treated with various physical methods alone. The trial was for a period of two methods 3-12 tablets of 400 mg. each were given per day. the compound was given either along or in combination with other modern drugs and or concurrent E.C.T. Assessment was done on the basis of mental examination and the outcome was classified into cured, improved and not improved.

The results show a cure of 59.9% in the effective group and the schizophrenic group. Whereas the cure in the control group was only 36%. In the patients treated with the compound alone, no serious side effects were observed.

Fozedar, *et al.* (1962), used the indigenous drug *Acorus calamus* Linn. (*Vacā*) in 28 patients of anxiety neurosis and 75 schizophrenic patients. The duration of treatment was 3 weeks and the drug was given orally in the form of tablets. The author reports that 6 patients of anxiety neurosis showed an improvement of 75% and above. Five patients showed improvement of 50% and above. Among the schizophrenics 7 patients showed improvement over 75% and 9 patients showed improvement over 50% and above. The schizophranic were given a much higher dosage (60 to 90 grains) as compared to those of anxiety neurosis.

Seth (1962), reported a study using *Soberia* consisting of a combination of Indian herbs in mental patients with encouraging results.

Dutta Roy *et al.* (1964) used a compound drug 'Nuvon' which contained 11 ingredients in a double blind trial on 44 hospitalised schizophrenia patients. 22 patients were given the drug and 22 were given placebo. Results revealed that there was no complete recovery with the drug. Three patients in the experimental group and one in the control group showed partial improvement, and there was no improvement in the remaining cases.

Hakim (1964) used oil of *Celastrus paniculatus* Willd. (Mālakāṅganī) seeds, with other indigenous drugs in an uncontrolled trial on a group of mental patients which includes 6 schizophrenics and 30 depressives. On the basis of subjective assessment he claimed that 73.3% recovery was observed in depressives and none of the 6 schizophrenics showed any significant improvement.

Appa Rao, *et al.*, (1973), conducted a double blind trial on the drug *Maṇḍūkaparṇī* on 15 mentally retarded children. The drug was administered for 3 months. The authors noticed significant increase in the I.Q. of these children as compared to the 14 children in the controlled group.

Shukla, (1977) has used *Śhaṅkhapuspī* (*Convolvulus pluricaulis* Choisy) in patients suffering from anxiety neurosis and thyrotoxicosis found improvement in the clinical symptoms.

Ramu *et al.*, (1983) in a pilot study used *Brāhmyādiyoga* herbal compound consisting *Maṇḍūkaparṇī* [*Centella asiatica* (Linn.(Urban], *Vacā* (*Acorus calamus* Linn.), *Sarpagandhā* (*Rauwolfia serpentina* Benth. ex Kurz), *Kuṣṭha* (*Saussurea lappa* C.B.Clarke), *Tagara*(*Nymphoides macrospermum* Vasudevan) and *Jaṭāmāṇsī* (*Nardostachys jatamansi* DC.), in 14 patients suffering from chronic *Unmāda* (schizophrenia). Duration of the treatment was 3 months. The dose of the drug initially was 8 grams which was further increased to 19 grams. For assessment psychiatric rationing scale, Āyurvedic assessments were fused.

10 patients completed the course of the treatment, out of them seven improved. Other 4 patients who have taken two months treatment and considered as drop outs also improved.

Ramu *et al.*, (1979) in restrospective study treated 182 admitted cases of *Unmāda* on general line of treatment using various herbomineral preparation and treatment methods like *Virecana, Abhyaṅga* etc. The average duration of treatment was 68 days. Diagnosis and the assessment was done on the basis of *Lakṣana Samucaya* (signs and symptoms) and clinical examination. The results have shown that 8.3% have much improved, 54.4% have improved, 25.8% have improved

slightly and 11.5% included those who have not improved, discharged against medical advice and expired.

In a pilot study conducted at Āyurvedic Research Unit (CCRAS), NIMHANS, Bangalore during 1975 a herbomineral compound powder (TDNI) combaining powder of *Āmalaki* (*Emblica officinalis* Gaertn.) deseeded dry fruit, *Sarpagandhā* (*Rauwolfia serpentina* Benth. ex Kurz.) root, *Khaskhas* (*Papaver somniferum* Linn.) dry seeds and Gairika (Red orchre mineral) was used in the form of a paste with rose water which served as a binding agent in excited *Unmāda* (psychosis) patients. The applications were repeated in every 3-4 hours. It was observed, that in 20-40 minutes after applications made it was effective in bringing down moderate degree of excitment out of 231 applications 141 applications brought about calming effect.

At Āyurvedic Research Unit, Bangalore, a pilot study was conducted in 1973 to the efficacy of *Virecana.* 13 different kinds of *Unmāda* patients were given *Virecana* after administering *Snehana* and *Svedana.* Following *Virecana,* marked relief was observed in 10 out of 13 patients.

Mahal *et al.* (1977) studied 100 *Unmāda* cases to see whether *Unmāda Nidāna* (diagnosis) can be done on the basis of *Lakṣana* and will there be agreement between two Āyurvedic physicians on such diagnosis. It was also studied to see whether there will be any correlation between two Āyurvedic and modern diagnosis. The study showed high agreement between two Āyurvedic physicians on assessing symptoms and diagnosis of various types of *Unmāda.* However there was no association between Āyurvedic and psychiatric diagnosis.

Koushik *et al.* (1983) used a *Kaṣhāya* prepared from *Medhya Rasāyana* drugs viz., *Śaṅkhapuṣpī, Maṇḍūkaparṇī, Guḍūcī* and *Yaṣṭimadhu* in patients suffering from, anxiety neurosis in a clinical study, significant clinical improvement was observed in the patients with the *Medhya Kaṣāya.* There was significant reduction in the depression symptoms also.

Dash *et al.,* (1983) in a preliminary study used a compound formulation of five potent *Medhya* durgs viz., *Śaṅkhapuṣpī* (*Convolvulus pluricaulis* Choisy), *Jaṭāmānsī* (*Nardostachys jatamansi* DC.), *Brāhmī* [*Bacopa monniera* (Linn.(Pennell], *Aśvagandhā* [*Withania somnifera* (Linn.) Dunal] and *Vacā* (*Acrous calamus* Linn.), to evaluate its clinical efficacy in patients suffering form *Unmāda* (psychosis). The patients were treated for a period of six weeks and observed a notable shift of grades of psychotic symptoms and the trial indicated the effectiveness of the compound in *Unmāda.*

Prabhakar Chatterjee Acharya (1971) says during the course of his long experience he has found the meat of Cuckko, efficacious in *Unmāda, Spasmāra, Murcchā* etc.

Singh *et al.* (1980) used *Brāhmī* (*Bacopa monnieri*) in a clinical trial in patients suffering from anxiety neurosis. 35 patients were treated for a period of one month. The drug was found to provide significant relief in symptoms and a quantitative reduction in the level of anxiety.

Ramu *et al.* (1982) in a pilot study treated ten patients suffering from anxiety neurosis and were taking modern medical treatment for atleast three months without responsing to it. They were given *Kṣīradhārā* for a period of 14 days. The patients were assessed by a psychiatrist, a clincial psychologist and an Āyurvedic physician. The improvement was significant.

In a pilot study conducted at Āyurvedic Research Unit, NIMHANS, during 1976 Bangalore, *Maṇḍukaparṇī* (*Centella asiatica*) was given orally in tablet form in six *Unmāda* patients for a minimum period of 19 days. The dose of *Maṇḍukaparṇi* was given on gradually increased dose from 2-4 grams to 24 grams in the divided doses on the average. Out of the 6, 4 patients were improved. It was observed that there was scope for increasing the dose further as there were no sick effects. This however could not be attempted due to the bulkness of the drug. (unpublished).

Tripathy *et al.*, two of the *Rasāyana/Vājikaraṇa* drugs, *Aśvagandhā* (*Withania somnifera* Linn.) and *Kapikacchū* (*Mucuna pruriens* DC.), for their anti-anxiety and anti-depressent activities in 50 patients suffering from depressive neurosis. Duration of the treatment was 8 weeks. Assessment was done on the basis of 1. clinical presentation, 2) anxiety and depression rating scale and estimation of VMA, and 5, HIAN (selected patients). The results indicated that significant clinical relief besides quantitative reduction in the scores of clinical anxiety.

Experimental studies : Singh *et al.* (1974) carried out pharmacological studies on *Celastrus paniculatus* (*Mālakaṅganī*). In this study the alcoholic extract from the whole plant of *Celastrus paniculatus* were screened for its pharmacological effects on various animals and tissues. It was found that the extract possessed transquilizing, sedative, central muscle relaxant, anti-inflammatory, anti-pyretic, anti-ulcerogenic, anti-emltic, analgesic and adaptogenic properties as judged by animal tests.

Singh *et al.* (1975) conducted a comparative study on the psychotrophic action of *Medhya* drugs viz., *Brāhmī* (*Bacopa monnieri*) and *Maṇḍūkaparṇī* (*Centella asiatica*). In this experimental study statistically significant barbiturate hypnosis potentiation effect was noted in *Brāhmī*, which was comparable with chlorpromazine,

though the *Brāhmī* was used in relatively high dose. A minor degree of barbiturate hypnosis potentiation effect was also seen in *Maṇḍūkaparṇī*, though the values was statistically not significant. The biochemical studies showed significant reduction in the acetylcholine and cholinesterase contents of the brain tissue as well as blood. These changes were also more pronounced in animals treated with *Bacopa monnieri* as compared to *Centella asiatica*.

Singh *et al.*, (1979) carried out the studies to find out the effect of four *Medhya Rasāyana* drugs viz., *Brāhmī* (*B. monnieri*). *Śaṅkhapuṣpī* (*C. pluricaulis*), *Yaṣṭi* (*Glycyrrhiza glabra*) and *Gūḍucī* (*T. cordifolia*) on the level of acetylcholine (ACH), cetacholamine, 5 HT and histamine content of the brain, on normal and stressed rats. These drugs decreased the ACH content whole brain homogenate but notably raised the ACH content in the cortex. These catacholamine and 5 HT contents were also found raised. The histamine content was lowered in the whole brain homogenate, while it was found raised in the cortex. The changes were more pronounced in stressed rats. These changes indicate that these drugs while acting as tranquilizers may also be producing improvement in mental fucntions.

Singh *et al.*, (1979) carried out the studies to find out psychotrophic effect of *Aśvagandhā* (*Withania somnifera*). They have found that the drug showed barbiturats hypnosis potentiation affect and locomotive activity in rats. The drug induced a depletion of acetylcholine and crata-bholamines in the brain and produced an increase in the whole brain tissue level of serotonis and histamine. The drug did not affect any change in blood pressure in anaesthetized dog.

Shukla (1980) carried out a comparative study on the barbiturate hyposis potentiation effect of *Śaṅkhapuṣpī* (*Convolvulus pluricaulis*) and *Maṇḍūkaparṇī* (*Centella asiatica*) and found both the drugs possessed barbiturate hypnosis potentiation effect in albino rats. The effect was more pronounced in the *Śaṅkhapuṣpī* treated group than in *Maṇḍūkaparṇī* treated group.

Singh *et al.*, (1981) has carried out studies to see the psychotrophic effect of *Medhya Rasāyana* drug *Maṇḍūkaparṇī* (*Centella asiatica*) The drug *Maṇḍūkaparṇī* has shown barbiturate hypnosis potentiation effect and anti-convulsive activity. The level of acetylcholine contents was slightly lower in *Maṇḍūkaparṇī* treated group as compared to control. Similarly the total catacholamine contents of the whole brain tissue were also estimated in all the three groups. The values were found increased in both the drug treated groups as compared to the control. The difference being statistically significant. The drug *Maṇḍūkaparṇī* appears to produce significant changes in the neurochemistry of the brain besides its anti-convulsive and barbiturate hypnosis potentiation effects. The authors feel that such changes may be responsible for the anti-anxiety effect of the drug as observed in clinical cases. The effect of *Maṇḍūkaparni* was compared with placebo and diazepam.

Agrawal (1981) conducted studies to assess the neuropharmacological action of alcholic action of *Centella asiatica*. The drug when given alone shown various degrees of sedation. It showed only 20% of mortality even at a dose of 10 gr./kg. orally. It significantly potentiated sodium phenobarbitone hypnosis and reduced amphetamine toxicity but did not show any protection against metrozol induced or electro-shock seruizures. The drug produced hypothermia which was maximum at 2 hours. It also did not show any protection against thermonine.

Singh *et al.*, (1979) have studied the efficacy of *Medhya* drug *Brāhmī* [*Bacopa monnieri* (Linn) Pannell] in an experimental study for its anti-anxiety effect in rats. The drug has showed significant berbiturate hypnosis potentiation effect, it reduced the activity of experimental animals without much alteration of brain neurochemistry.

Day *et al.* (1968) found out neurogenic properties of glycosine, a new alkaloid isolated from *Glycosmis pentaphylla* Cor. blocks the central action of mescaline and counteracts chemo-convulsion induced either by strychinine or metrazol. It was observed that this alkaloid potentiates the thiopental induced narcosis and also prevents the precipitation of circline movement and convulsion caused by cocaine. The alkaloid itself produces a tranquil state in animals. It is observed that the alkaloid also inhibits the contraction of toad's heart and also produces hypotension in animals. Its usefulness as a potent therapeutic agent in some kind of psychomotor disorder has been indicated.

Ramaswamy *et al.*, (1970) carried out pharmacological studies on the saponins from *Centella asiatica* (brahmosides). The saponins have been found to possess sedative action in animals which is that of a minor tranquiliser. According to author(s) the mode of action appears to be mainly cholinoergic mechanism in the C.N.S.

Papers and books on concepts and principles relating to *Manovikara*

Unnikrishnan (1964) in his article titled *Unmāda* described *Unmāda* and its management as per classics and classified *Unmāda* into two groups as *Nija* (endogenous) and *Āgantu* (exogenous).

The book titled *Mānasarogavijñāna* (Hindi) (1949) by Pathak has given a descriptive account of *Manas* from the view points of modern clinical psychology.

The book titled, mind in health & disease (1950) by Lakshmipathi, has dealt with different aspects of mind in relation to *Yoga*, mental disposition, classification of emotions, *Prakṛti*, mind disorders in modern psychology and three types of therapies mentioned in Āyurveda.

The book, *Prācīna Bhāratiya Manovijñān* (Hindi) (1976) by Achal has classified *Mānasaroga* in two types viz.,*Ekadeśīya* and *Ubhayāśrita*. The various emotional

excess of *Kāma*, *Krodha*, *Bhaya*, etc. have been grouped under *Ekadeśīya Mānasaroga* and *Unmāda*, *Apasmāra*, *Madātyaya* etc. have been group under *Ubhayāśrita Mānasaroga*. Such diseases described in the Āyurvedic classics which could be considered under *Manovikāra* have also been compiled and presented.

The book, psychotherapy in India (1977) by Singh considers *Mānasaroga* under *Bhūtavidya* quoting others in support of his view and classifies *Mānasaroga* as mild and severe abnormalities.

The book, psychopathology in Indian Medicine Āyurveda in (1977) by Gupta has classified *Manovikāra* into four types as (i) diseases with primarily mental origin and predominantly mental symptoms, (ii) diseases with primarily mental origin and predominantly physical symptoms, (iii) diseases with primarily physical origin and predominantly physical symptoms, and (iv) diseases with primarily physical origin and physical symptoms, alone with conditions assigned to each of these groups.

The monograph titled, an approach to mental examination based on Āyurvedic concepts (1981) by Ramu *et al.*, has presented a scheme of mental examination on Āyurvedic lines taking into consideration Caraka's definition of *Unmāda* on the one hand, and various concepts releated to *Manas* on the other, along with methods of eliciting the different states of each of the various aspects of *Manas*, based on the description available in the Āyurvedic treatises.

The book, Āyurvedīya *Manovijñāna* (Kannada, 1933) by *Dhanyakumija* has classified *Manovikāra* as *Manoroga* and *Lagumanoroga* modeled on the out dated psychiatric distinction between major and minor psychiatric disorders.

The book, Āyurvediya *Manasavijñāna* (Hindi, 1986) by Singh defines *Mānasaroga* as that condition wherein abnormalities mainly related to *Manas* (mind) or reflected. Four types of *Mānasaroga* are suggested based on the classical descriptions as (i) *Mānasaroga* caused by primary vitiation of *Rajas* and *Tamas*, (ii) *Mānasaroga* due to imblance of both *Manasa* and *Śārīrika Doṣa*, (iii) abnormalities related to *Mānasa Prakṛti* and (iv) *Manodaihikaroga* due to mental disturbance but reflected as physical symptoms. Lists of clinical conditions assigned to each of them with their nearest equivalents in psychiatry are given.

The book titled, *Man Evam Mānasaroga* (Hindi, 1987) by Thakar has dealt with the natural state of *Manas*, definition, qualities and actions of *Manas*, *Cittavṛtti* (emotions) - their comparison with psychological view points, deranged state of *Manas*, natural and hereditory mental deficits, historical account of classification of *Manovikāra* (pshychological disorders), diagnostic methods in patients with *Grahonmāda*, *Bhūtonmāda* epilepsy and other conditions affecting consciousness, *Dhrama* (erroneous cognition), hyper active nature *Manas* Āyurvedic psychotherapy, in comparison to the contemporary psychotherapeutic concepts and measures.

Verma (1965) in his article entitled, psychiatry in Āyurveda has described the Āyurvedic definition, *Doṣa* theory, diet, *Prakṛti, Satva, Unmāda* definition clinical varieties, classification and types of treatment. He also tried theoritically corellaice Āyurvedic types of *Unmāda* with the various psychiatric disorders.

Vahia (1966, 69) in his articles (a) some ancient concepts in the treatment of psychiatric disorders and (b) a therapy based on some concepts prevalent in India, described in brief the concept and the technique of a therapeutic procedure based upon some ancient Indian concepts and discussed some specific features of therapy. According to the author, the results of the pilot study are encouraging.

Singh *et al.*, (1978) in their review article, Āyurveda *Sāhityme Hṛdaya, Manas, Medha, Śira, Mastuluṅga Kaparasparika Adhyayan* have explained the concept of *Hṛdaya, Manas, Medhā Śira* and *Mastuluṅga.*

Singh (1880) has reviewed the Āyurvedic literature pertaining to *Manas,* its concepts and principles in his article "Fundamental concepts of Āyurvedic Psychiatry".

Ramu *et al.*, (1985) in their article entitled, *Manovikāra* (mental disorders) in Āyurveda have explained, *Mana,* definition and classification of mental disorders from Āyurvedic point of view, mental examination and principles of the treatment of mental disorders.

Karel Nasper *et al.*, (1986) in the article on their experiences with Āyurvedic Psychotherapy-*Satvavajaya* in Eurpoe, have dealt with the basic principles of Āyurvedic psychotherapy and tried to draw some parallels between Āyurvedic and western psychotherapy based on a collateral study.

Murthy *et al.*, (1987) in their article have presented a critical study on the concept of psychotherapy in Āyurveda with special reference to *Satvavajaya.*

Reddy *et al.*, (1987) have made an attempted to focus various aspects like concepts of *Ātmā*, evolution, constituents of main location of *Manas* and other aspects of *Manas* in their article concept of *Manas.*

Ramu *et al.*, (1988) in their article, *Manovikāra* with special reference to *Udega* (Anxiety) *Viśāda* (depression), have made an attempt to classify the mental diseases described in Āyurveda and tried to explain as to how psychiatric disorders for which details have not been provided in the Āyurvedic classics, taking *Udvega* (Anxiety neurosis) and *Viśada* (depression) as examples.

Ramu *et al.*, (1988) in their article Āyurvedic definition and classification of *Manasikavikāra* made an attempt to provide a definition of *Mānasikavikāra* from Āyurvedic point of view and also tried to classify the mental disorders based on Āyurvedic concepts.

PART - II

CLINICAL STUDIES

A double blind contolled study on the role of *Brāhmyādiyoga* and *Tagara* in *Navonmāda* (acute schizophrenia)

This clinical study was conducted during 1974-75 on patients suffering from schizophrenia to assess the efficacy of *Brāhmyādiyoga* a herbal compound formulated by the Unit, containing, whole plant juice of *Maṇḍūkparṇī (Centella asiatica)*, rhizome powder of *Vacā (Acorus calamus)* and root powders of *Jaṭāmānsī (Nardostachys jatamansi), Tagara (Nymphoides macrospermum), Kuṣṭha (Saussurea lappa)* and *Sarpagandhā (Rauwolfia serpentina)*. Single drug *Tagara (Nymphoides macrospermum)* was given to one group of patients. Effects of these drugs were compared with the well known anti-psychotic drug chlorpromazine and a placebo in a double blind controlled study. The medicines and the placebo were administered in the form of sugar coated identical tablets. A brief description of the constituents of *Brāhmyādiyoga* is give below :

Maṅḍūkaparṇī

Botanical name : *Centella asiatica* (Linn.) Urban

Family : Umbelliferae

Habitat : Throughout Indian in marshy places upto 1800 m.

Exomorphology : Prostrate herb with orbicular or reniform leaves; flowers-white in compound umbels; fruit-orbicular; compressed.

Chemical constituents : Plant contains a bitter substance, a glucoside asiaticoside, oxyasiaticaside, essential oil, fatty oil, sitosterol, tannin, resinous substance, alkaloid hydrocotylin, vellarine, pectic acid, ascorbic acid, and an active oleageinous, white crystalline substance.

Pharmacological/Clincial actions : Sedative action and barbiturate hypnosis potentiation activity, significant reduction in the acatylcholine and cholinesterase contents of the brain tissue as well as blood in animals have been reported. Alterative, tonic, diuretic, local stimulant, emmenegogue, stupifying narcotic; has special influence on the genito-urinary tract, sets up urinary and ovarian irritation and body itching. In large doses produces headache, giddiness and in some people a tendancy to coma.

Āyurvedic pharmaco-kinetics/dynamics and other indications : ***Guṇa***- *Laghu, Śara;* ***Rasa***-*Tikta, Kaṣāya, Madhura;* ***Vipāka***-*Madhura;* ***Vīrya***-*Uṣṇa;* ***Prabhāva***-

Medhya. The drug is *Pittahara, Medhya, Ayuṣya, Rasya, Svarya, Smṛtiprada;* relives *Rakta Pitta, Kuṣṭha, Maha Jvara, Kāsa, Viṣa, Śotha, Pāṅdu, Aruchi* etc.

Part used : Whole plant.

Dose : Whole plant powder - 3 to 5 gm., Juice -15 to 25 ml. & Root powder - 0.5 to 1.5 gm.
Adulterants : *Hydrocotyle javanica, Merremia gangetica.*

Popular formulations : *Brāhmīghṛta, Brāmītaila, Brāhmīrasāyana, Sārasvatāriṣta, Śārasvata Cūrṇa* etc.

Vacā

Botanical name : *Acorus calamus* Linn.

Family : Araceae

Habitat : Throughout India in marshes, wild or cultivated, ascending the Himalayas up to 1800m. in Sikkim. Plentiful in the marshy tracts of Kashmir and Sirmoor in Manipur and Naga Hills.

Exomorphology : Rhizomatic herbs with creeping root stock; leaves-ensiform; inflorescence - sessile cylindric sense flowered spadix; fruit - berry with a few oblong seeds.

Chemical constituents : The dry rhizomes contain a yellow, aromatic volatile oil, essential oil containing calamen, calamenol, calemeon, asarone, small amounts of sesquiterpenes and sesquiterpene alcohols.

Pharmacological/Clinical actions : Different fractions of the dry herb have shown anti-spasmodic, nerve despressant, anti-bacterial, mild sedative, potent tranquilizer, mild hypotensive, hypnotic potentiating, anti-cunvulsant, anti-cholinergic activities in experimental animals. Rhizome is emetic, stomachic, used in dyspepsia, colic, remittent fevers, bronchitis, dysentery of children, snake bite, etc., used as nervine tonic and insectifuge.

Āyurvedic pharmaco-kinetics/dynamics and other indications : *Guṇa*-*Laghu*, *Tīkṣṇa, Kara;* ***Rasa***-*Tikta, Kaṭu;* ***Vipāka***-*Katu,* ***Vīrya***-*Uṣṇa;* ***Prabhāva***-*Medhya.* The drug is *Vāta Kapha Hara, Kanṭhya, Medhya* and relieves *Krimi, Vibandha, Ādhmāna, Śūla, Apasmāra, Unmāda, Bhūta, Anila, Vāntikara, Vahnikara* etc.

Part used : Rhizome.

Dose :125 to 625 mg., as a palliative, 625 to 1875 mg. as an emetic.

Popular formulations : *Vacādighṛta, Sārasvatacūrṇa, Medhyarasāyana* etc.

Tagara

The drug sold in the local market as *Tagara* has been used in the studies after botanical identification. However the accepted source of Tagara is *Valeriana jatamansi* and *Valeriana wallichii* which are Himalayan species.

Botanical name : *Nymphoides macrospermum* Vasudevan

Family : Gantianaceae

Habitat : South India-water stagnant pools.

Exomorphology : Free floating, stoloniferous herb, leaves-ovate, cordate, flowers -white in axillary clusters.

Chemical constituents : Contains sterol, tannins, sugars, saponins, phenol, flavonoid, steroid.

Pharmacological/Clinical actions : Tagara has shown anti-psychotic action in patients of *Unmāda* in a pilot study carried out in the Āyurvedic Research Unit, NIMHANS, Bangalore.

Āyurvedic pharmaco-kinetics/dynamics and other indications : ***Guṇa-Laghu***, *Snigdha, Sara;* ***Rasa-Tikta***, *Kaṭu, Madhura, Kasāya;* ***Vipāka-Kaṭu; Vīrya-Usṅa***. The drug is *Tridoṣahara, Cakṣuṣya* and relieves *Viṣa Doṣa, Sūla, Raktadoṣa, Mala, Bhūotapasmāra, Cakṣuroga* etc.

Part used : Root

Dose :1 to 3 gm.,
Substitutes : *Nymphoides indicum*

Popular formulations : *Tagara Mūla Cūrṇa.*

Jaṭāmāmnsī

Botanical name : *Nardostachys jatamamsi* DC.

Family : Valerianaceae

Habitat : Alpine Himalayas, 3300-4500 m. extending eastwards from Kumaon to Sikkim, 1500 m. and Bhutan.

Exomorphology : Erect herb with stout woody rootstock, basal leaves spatulate, upper leaves sessile, oblong, flowers-pale pink or blue in dense cymes.

Chemical constituents : Essential oil, a crystalline acid, jatamansi acid, resin, sugar, starch, bitter extractive matter and gum.

Pharmacological/Clinical actions : Sedative, hypotensive, hexobarbitol, narcosis potentiation, depressant, tranquilising, anti-arxythmic, bronchodialater, anti-spasmodic, anti-bacterial, diuretic, anthelmentic activities of different functions of the drug in lab. animals have been reported. Aromatic, bitter, tonic, stimulant, anti-septic, anti-spasmodic, emmenagogue, nerve sedative, carminative, promotes appetite and digestion, used in epilepsy, hysteria, convulsive affections, intestinal colic, palpitation of heat.

Āyurvedic pharmaco-kinetics/dynamics and other indications : ***Guṇa***-*Laghu, Tīkṣṇa, Snigdha,* ***Rasa***-*Tikta, Kaṣāya, Madhura,* ***Vipāka***-*Katu,* ***Vīrya***-*Sīta, Prabhāva-Bhūtaghna (Mānasa Doṣahara).* The drug is *Tridoṣahara, Medhya, Balya, Kāntiprada,* relieves *Dāha, Kuṣṭha, Viṣa, Bhūta, Jvara, Raktadoṣa, Visarpa* etc.

Part used : Root

Dose :1 to 3 gm.

Substitute : *Nardostachys gossyphiphora.*

Popular formulations : *Māṁsyādi Kvātha, Rakṣoghna Ghṛta.*

Kuṣṭha

Botanical name : *Saussurea lappa* CB. Clarke

Family : Compositae

Habitat : Grows abundantly on the Himalayas and valley of Kashmir, upto 2400-3600m.

Exomorphology : Erect herb with stout root, leaves with winged petiole, flowers in sessile heads, dark blue-purple or black in axillary and terminal clusters, fruit an achene, curved compressed.

Chemical constituents : Roots contain essential aromatic oil, an alkaloid saussurine and bitter resin, bicyclic lactone, potassium nitrate, sugar, essential oil contains terpenes, aplotoexen sesquiterpenes, kushtin; root ash contains large quantity of manganese.

Pharmacological/Clinical actions : The drug has shown bronchiotes relaxation, general depressant action on involuntary tissues of the body in experimental animals. Tonic, stomachic, stimulant, carminative, antiseptic, expectorant, diuretic, muscle relaxent, cardiac stimulant, anti-rheumatic, inhalation of the drug (smoke) produces marked depression of the CNS; effect of essential oil resembles that of other volatile oils on the CNS, used in asthma, cough, cholera, skin diseases, drug has distinfectant property against streptococus and staphylococcus, in large doses, the extract produces giddiness, headache and drousiness which cannot be attributed to any of other active principles.

Āyurvedic pharmaco-kinetics/dynamics and other indications : ***Guṇa-Laghu,*** *Rūṣa, Tīkṣṇa,* ***Rasa-Tikta,*** *Kaṭu, Madhura,* ***Vipāka-Katu, Vīrya-Usṇa.*** The drugs is *Vātahara, Kaphahara, Vakprada, Sugandhakara, Ayuṣya* and relieves *Vātarkata, Visarpa, Kāsa, Kuṣṭha, Vātaroga, Śvāsa, Kāsa, Hikkā, Jvara* etc.

Part used : Root

Dose :250 to 1250 mg.

Substitutes : *Inula racemosa*

Popular formulations : *Kuṣṭhādi Cūrṇa, Kuṣṭhādi Kvātha, Kusṭhādi Taila, Agnimukha Cūrṇa.*

Sarpagandhā

Botanical name : *Rauwolfia serpentina* Benth. ex Kurz.

Family : Apocynaceae

Habitat : Sub Himalayan tracts from Sirhind estwards to Assam, especially in Dehra Dun, Siwalik range, Rohilkhand, N. Oudh, Gorakhpur ascending to 1200m.; also Kankan, North Kanara, South Maharashtra, West & East Ghats of Madras State districts of Bihar as Patna and Bhagalpur, north and Central Bengal and Andaman.

Exomorphology : Erect herb or under shrub with oblanceolate leaves, flowers-white with pinkish blotches in many flowered long peduncled terminal and lateral cymes, fruit-droop, purplish-black.

Chemical constituents : Total alkaloids 0.8 to 1.3% consisting of ajmaline, ajmalinine, serpentine, serpentinine and amorphous bases, root also contains oleoresin and a sterol-serposterol, root bark contains iso and neo-ajmalins and rauwolfine.

Pharmacological/Clinical actions : Alkaloid rauwolfine decreases the heart rate of cats, frogs and rabbits, serpentine injection (i.v.) produced a fall of B.P. and increase in the tone of small intestine and decrease in the peristaltic contractions of the intestine, crude extracts total alkaliods and serpentine lower carotid B.P. of normal cats, ajmaline and serpentinine increase pressure, the latter depresses the cardiac musculature, produces splanic contraction and stimulates respiration, total alkaloid neoajmaline and isoajmaline isolated from Dehradun samples act as intestinal depressants and cause fall of B.P. in all dogs in intact, spinal and decrebrate animals. A resin fraction produces sedative and hypnotic effects in experimental animals. Serpentine has a depressor and vasodilator action on dogs. Alkaloid free oleoresin fraction from the root produced sedative and hypnotic effects in animals. Total alkaloid extract from Bihar variety is more toxic than Dehra Dun. Reserpin a highly active alkaloid shows a very marked hypnotic effect and lower the B.P. Root is hypnotic, sedative, specific for insanity, reduces high blood pressure, remedy in painful affictions of the bowels, juice of leaves used for removal of opacities of the cornea.

Āyurvedic pharmaco-kinetics/dynamics and indications : ***Guṇa-Usṇa, Rasa-Tikta, Vipāka-Kaṭu, Vīryu-Usṇa***. The drug is *Kapavātapitta Śāmaka, Dīpaka, Pācaka, Nidrājanaka, Vedanāsthapaka, Āmapācaka, Kāmāvasadaka, Ārtavajanaka* and used in *Jvara, Krimi, Viṣa, Unmāda* etc.

Part used : Root and leaf.

Dose :Root powder as hypotensive-250 to 500 mg.

Substitutes : *Rauwolfia densiflora.*

Popular formulations : *Sarpagandhāyoga, Sarpagandhā Ghana Vati, Sarpagandhādi Cūrṇa, Sarpagandhāriṣta, Rakṣoghnayoga* etc.

Methodology

Selection of patients : 136 patients suffering from various types of *Unmāda* (schizophrenia) attending the out patients department of the All Indian Institute of Mental Health (presently NIMHANS), Bangalore for a period of two months and in the age range of 15-45 years and of either sex were selected and admitted in the ward for the study. The study period was two months. The diagnostic criteria of schizophrenia was in accordance with the National Institute of Mental Health,

Psychopharmacological service centre, collaborative study group (1964, phenothiazine treatment in acute schizophrenia).

Criteria for patient selection

1. Newly admitted to the Hospital
2. Age between 16 and 45 years
3. Significant hospitalization during 12 months prior to current admission
4. No evidence of the following clinical disorders
   a) Childhood autism or childhood schizophrenia
   b) Chronic or acute brain syndrome
   c) Mental deficiency, with IQ below 70
   d) Alcoholism as a significnat feature of the clinical history (alcohol intake alone did not disqualify the patient)
   e) Epilepsy
   f) Drug addiction
5. Presence of two or more of the following symptoms or behaviour
   a) Thinking or speech disturbances
   b) Catatonic major behaviour
   c) Paranoid ideation
   d) Hallucination
   e) Delusional thinking other than parenoid
   f) Blunted or inappropriate emotion
   g) Disturbance of social behaviour and interpersonal relation.

The patients were randomly allocated into four treatment groups namely a) *Brāhmādiyoga*, b) *Tagara*, c) chlorpromazine and d) placebo. The duration of illness varied from 2 to 24 months. Out of 136 patients 108 patients who have completed the treatment for a period of 2 months were taken for final assessment. The remaining 28 patients were drop-outs for reasons of escape and LAMA (leaving against medical advice). Details of the data of the study collected in table form with respect to age, sex, duration of illness and trial dose of medicine in Table 1, 2, 3 & 4.

Table 1

Age distribution in four treatment groups

Treatment	Mean total age (in years)
Brāhmyādiyoga	28.00
Tagara	29.30
Chlorpromazine	39.30
Placebo	25.89

F=1.010, d.f. 104.3, p>0.05, the difference is not significant hence the distribution of patients to four treatment groups as per age is not significnat.

Table 2

Sex distribution in the patients of *Navonmāda*

Sex	*Brāhmyādiyoga*	*Tagara*	Chlorpromazine	Placabo	Total
Male	16	18	10	17	61
Female	11	9	17	10	47
Total	27	27	27	27	108

$x^2 = 5.84$, d.f. 104. 3, $p > 0.05$, the difference is not significant, The distribution of patients according to sex into four treatment groups is not significant.

Table 3

Duration of illness in four treatment groups of *Navonmāda*

Treatment (in months)	Mean	Treatment (in months)	Mean
Brāhmyādiyoga	7.0	Chlorphromazine	5.9
Tagara	6.8	Placebo	5.9

F=5.129; d.f. 104.3, p>0.0005.

The diffeence is not significant. The distribution according to duration of illness in the four groups is not significantly different.

Table 4

Trial dose of medicine in *Navonmāda* cases

Duration	Medicine divided into four equal doses (in grams)			
(in months)	*Brāhmyādiyoga*	*Tagara*	Chlorpromazine	Placebo
I[st]	8	8	200	8
IInd	12	12	300	12

Āyurvedic diagnosis : All the patients admitted to the study were in addition given an Āyurvedic diagnosis. Āyurvedic diagnosis was made on the basis of symptomatology of *Unmāda*. 136 patients were confirmed to have *Unmāda*. The different types are *Vātomāda* 42, *Pittomāda* 35 and *Kaphonmāda* 57. The remaining two patients escaped even before Āyurvedic diagnosis.

The following classical symptoms were present in the number of patients shown against each symptom initial assessment. It may be noted that 29 are the *Vatonmāda* symptoms, 22 are the *Pittonmāda* symptoms and 26 are *Kaphonmāda* symptoms.

S.No.	Symptoms	No. of patients
1.	*Ajasram Parisaranam* (constant rambling)	45
2.	*Akasmātākṣi/Bro/Oshta/Hanvagra/Hasta/Pada Aṅgavikhsepanam* (meaningless jerking of the body parts)	27
3.	*Satatām Girāmutsargaha* (over talkative)	43
4.	*Aniyatam Girāmutsargaha* (irregular, incoherent and indefinite talking)	72
5.	*Paruṣa Vāk* (talking harshly)	24
6.	*Abhīkṣṇam Asthāne Smita* (excessive and or inopportune smiling)	37
7.	*Abhīkṣṇam Asthāne Hasita* (inopportune laughing)	16
8.	*Abhīkṣṇam Asthāne Rodana* (excessive and inopportune weeping)	18

S.No.	Symptoms	No. of patients
9.	*Abhīkṣṇam Asthāne Nṛtya* (continuous and inopportune dancing)	11
10.	*Abhīkṣṇam Asthāne Gāyanam* (continuous and or inopportune singing)	13
11.	*Abhīkṣṇam Asthāne Vādanam* (continuous and or inopportune playing with musical instruments)	4
12.	*Vividha Śabdanukrana* (imitation of different sounds)	2
13.	*Āsyat Phenāgamanam* (frothing at the angles of mouth)	3
14.	*Ayānairyānam* (trying to ride on unusual things which are not mounts)	3
15.	*Analankāirkairalankaranam* (adorning with unornametal and strange things)	4
16.	*Alabdeshu Abhyavahāryeṣu Tīvra Lobha* (crazy for obtaining things which are unobtainable)	4
17.	*Labdeshu/Abhyavahāryeṣu Tīvramātsaryam* (refusing or abusing things when made available although was crazy of obtaining them before)	1
18.	*Vikroṣa* (loud crying/shouting)	7
19.	*Vividhasabdānukaranam* (making sounds of different body parts)	3
20.	*Pāriṣya* (reddish eyes)	10
21.	*Kārśyam* (emaciation/leanness)	26
22.	*Utpinditakṣatā* (protruded eyes)	5
23.	*Arunakṣatā* (reddish eyes)	5
24.	*Arunakṣatā* (coppery/brownish complexion)	4
25.	*Jīrṇbalam* (post digestion aggration)	1
26.	*Svastura* (afflicted by dyspnoea)	5
27.	*Rukṣachhavi* (dry skin)	18
28.	*Amarśa* (irritability)	75
29.	*Krodha* (anger)	57
30.	*Asthāna Samrambha* (inopportune excitement)	43

S.No.	Symptoms	No. of patients
31.	*Sveśam Abhihananam* (striking one self)	7
32.	*Paraṣam Abhihananam* (striking others)	33
33.	*Abhidrāvanam* (running away)	19
34.	*Prachhayabhilashī* (craving for cool shade)	3
35.	*Sītannabhilashi* (craving cool food/drink)	9
36.	*Tāmrakṣatā* (coppery eyes)	3
37.	*Samrabdhākshatā* (furious eye look)	1
38.	*Asatya Jvālana Tarakadi Darśanam* (visual hallucination)	10
39.	*Vinagnabhāva* (nudity)	2
40.	*Santarjanam* (threatening)	2
41.	*Ouṣṇya* (feeling of hotness)	5
42.	*Pītacha Bha* (yellowish aura)	1
43.	*Tṛt Bahula* (intense thirst)	2
44.	*Sveda Bahula* (intense perspiration)	2
45.	*Bahudhuk* (voracious eating)	7
46.	*Tīkṣna* (harsh/curt)	12
47.	*Himāmbunicayepicha Vahniṣanki* (doubts of fire of warmth even in cool surroundigns)	1
48.	*Vinidrā* (sleeplessness)	96
49.	*Chāyāsevī* (taking shade)	5
50.	*Alpasahchakramanam* (reduced psychomotor activity)	-
51.	*Lalosrāva* (dribling of saliva)	3
52.	*Singānaka Śrāvaha* (nasal discharge)	4
53.	*Rahaskamata* (love to remain unidentified)	38
54.	*Tūṣnībhava* (disgusted)	54
55.	*Śoucadveṣa* (aversion to cleanliness)	24
56.	*Svapnanityatā* (always sleepy)	7

S.No.	Symptoms	No. of patients
57.	*Svayathuscānane* (puffiness of face)	6
58.	*Śuklakṣitya* (whitish/pallored eyes)	78
59.	*Stimitakṣatva* (fixed eyes)	7
60.	*Malopadigdhākshitva*(eyes covered with mucosal discharge)	2
61.	*Vākmanda* (slow speech)	58
62.	*Manda Cesta* (slow action)	61
63.	*Aruci* (tastelesness)	3
64.	*Narīpriyatā* (fond of sex life)	5
65.	*Alpamati* (mentally dull)	57
66.	*Vivikta Priyatā* (fondness of solitude)	21
67.	*Vivikta Priyatā* (fond of silence)	18
68.	*Uṣṇa Sevū* (using of hot things)	2
69.	*Bhukte Balam* (illness aggrevating after taking food)	2
70.	*Nakhādi Śouklyam* (white/pale nails etc.)	30
71.	*Chardi* (vomiting)	4
72.	*Aruci* (anorexia)	6
73.	*Alpasaschaharam* (taking small quantity of food)	6
74.	*Sadanam* (weakness)	10
75.	*Kāsa* (cough)	1
76.	*Anannābhilaṣa* (like to be without eating)	2

Laboratory investigations : Routine blood and urine examinations were carried out before and after the treatment.

Exclusion criterion : Stuporous and exclusively withdrawn patients were not included in the study.

Assessments : Psychiatric and Āyurvedic assessment were carried out on all the patients initially and fortnightly for a period of two months. Psychiatric asessment was done on the basis of a psychotic rating scale (Rockland *et al.*, 1965). This is

consturcted for a repeated use and needs brief interviews. It provides a quantified profile of the reflection of clinical judgement, impressions of degree and nature of psychotic symptomatology. The normality of the behaviour, effect or cognition is indicated by the zero score, where as the psychopathology in these areas increases the score becomes positive or negative. The whole scale total scores are used as a quantitative measures of the 'psychoticness' to compare patient to patient and to compare the patient over time. The degree of psychotic illness can be longitudinally as well as in the present. The balance of whole scale positive and negative scores enables the rater to distinguish the inactive, withdrawn, depressed patients from the hyperactive, talkative and the actionout one. The sub totals in each category indicate whether the major portions is in the behaviour, affect or cognition. In the present study the scale has been used to measure the severity of the illness in terms of symptomatology quantitatively in the same patient over time.

Āyurvedic assessment : A qualitative assessment was carried out on the basis of the different aspects of *Manas* i.e. *Mana* (perception, hallucination, mood, attention and concentration) *Buddhi* (intelligence and judgement), *Sañjñana* (orientation) *Smṛti* (memory) the *Bhakti* (insight) and *Unmāda* symptoms present in the patients. The results of the assessments was indicated as improved or not.

Psychological assessment : The following psychological tests were administered initially and after completion of the treatment.

(i) **Multiphasic questionnarie** (MPQ) : This is a diagnostic questionnarie with 100 statements originally taken from M.M.P.I. and the test has been standardized for eight diagnostic categories viz., anxiety, depression, mania, paranoia, schizophrenia, hysteria, psychopathic deviation and the K scale (Murthy 1964, 65, Murthy, 1968 and Lakshminarayana *et al.*, 1969). The questionnarie is either self administered or it can be administered by examiner. Each statement is answered 'true or false'. Each diagnostic scale has a cutting score above which the scors is significant and indicating pathology in that category. The questionnarie is available both in English and Kannada.

This questionnarie was used before and after treatment to monitor improvement.

(ii) **Spiral after effect** : It is the phenomenon of after effect of a moving object is observed even after the termination of the movement of the stimulus. The after effect is present in the opposite direction of the moving stimulus. Some of the factors that determine the duration of the after effect are cortical arousal and the level of attention of the observer (Rolland, 1965; Claridge, 1957), It was reported that schizophranics in acuts conditions have a significantly longer duration of after effect than the normal (G.S. Claridge and R.N. Herringson, 1968).

9 SEP

This test was used in the present study with the aim that once acute condition is controlled, the spiral after effect will come down.

Results

Statistical analysis of psychiatric rating scale : The value obtained by substracting the initial score from the final score will measure the degree of improvement in the mental status.

Table 5

Variance of *Navonmāda* cases on psychiatric rating scale

Treatments	Mean	Standard error
Brāhmyādiyōga	7.9	1.8
Tagara	2.7	1.5
Chlorpromazine	12.3	2.1
Placebo	1.4	1.9

Mean improvement and its standard error of positive scores in four treatments.

The four treatments were compared simultaneously for their mean improvement in the mental status by analysis of variance technique.

'f'= 7.1; d.f. 3.104 ($P < 0.001$) 'f' test is significant, it is concluded that the mean effectiveness of four treatments are not the same. To see which is the four treatments is better, two treatments were compared at a time by using 't' test. Inference from psychiatric rating scale is given below :

1. The difference is mean effectiveness of *Brāhmyādiyoga* is better than mean effectiveness of *Tagara* ($P < 0.005$) and placebo ($P < 0.001$).
2. The difference is mean effectiveness of chlorpromazine is better than mean effectiveness of *Tagara* ($P < 0.005$) and placebo ($P < 0.001$).
3. The differences is mean effectiveness of *Brāhmyādiyoga* and chlorpromizine is not significant ($P > 0.05$).
4. The difference is mean effectiveness of *Tagara* and placebo is not significant ($P > 0.05$)

Table 6

Variance of *Navonmāda* cases on phychitric rating scale

Treatments	Mean	Standard error
Brāhmyādiyoga	3.2	1.0
Tagara	-2.8*	1.4
Chlorpromazine	5.5	1.0
Placebo	-1.4*	1.6

* Negative indicates deterioration, mean improvement and its standard error of negative scores in four treatments.

The four treatments were compared simultaneously for their mean improvement in the mental status by analysis of variance technique.

'f'= 7.1; d.f. 3.104 (P <0.001) 'f' test is significant, it is concluded that the mean effectiveness of four treatments are not the same. To see which is the four treatments is better two treatments were compared at a time by using 't' test. Inference from psychiatric rating scale is given below :

1. The difference is mean effectiveness of *Brāhmyādiyoga* is better than mean effectiveness of *Tagara* (P < 0.005) and placebo (P < 0.001).
2. The difference is mean effectiveness of chlorpromazine is better than mean effectiveness of *Tagara* (P < 0.005) and placebo (P < 0.001).
3. The differences is mean effectiveness of *Brāhmyādiyoga* and chlorpromizine is not significant (P > 0.05).
4. The difference is mean effectiveness of *Tagara* and placebo is not significant (P > 0.05)

Table 7

Improvement in mental statue of *Navonmāda* patients

Treatments	Mean	Standard error
Brāhmyādiyoga	11.1	2.1
Tagara	- 0.07*	2.3
Chlorpromazine	17.8	2.3
Placebo	10.0	2.7

* Negative sign indicates deterioration, mean improvement and its standard error of negative scores in four treatments .

The four treatments were compared simultaneous for their mean improvement in the mental status by analysis of variance technique.

'f' = 12.5507; d.f. 3.104, ($P < 0.001$), 'f' test is significant. It is concluded that the mean effectiveness of four treatment is not the same. To see which of the four treatments is better, two treatments were at a time by using 't' test. Inference from psychiatric rating scores (total scores) is given below :

1. The difference is mean effectiveness of the *Brāhmyādiyoga* is better than mean effectiveness of *Tagara* ($P < 0.001$) and placebo ($P < 0.005$).
2. The difference is mean effectiveness of chlorpromazine is better than mean effectiveness of *Tagara* ($P < 0.001$) and placebo ($P < 0.001$).
3. The difference is mean effectiveness of *Brāhmādiyoga* and chlorpromazine is not significant ($P > 0.05$).
4. The difference is mean effectiveness of *Tagara* and placebo is not significant ($P > 0.05$).

Table 8

Analysis of response with Āyurvedic formulation in *Navonmāda*

Assessment	Treatment				
	Brāhmyādiyoga	*Tagara*	Chlorpromazine	Placebo	Total
Improved	20	16	21	9	66
Not improved	7	11	6	18	42
Total	27	27	27	27	108

x^2 test is used to find the association between treatment and improvement. x^2 - 13.8795; d.f. 3, ($P < 0.005$). The association is significant. Further analysis was carried out to find which of the treatments is effective. For this x^2 test was used to taking two treatmens at a time. The inference given below:

1. There is association between improvement and chlorpromazine which is better than treatment with placebo ($P < 0.05$).
2. There is association between improvement and *Brāhmyādiyoga* which is better than treatment with placebo ($P < 0.005$).
3. *Tagara* was not different than *Brāhmyādiyoga,* chlorpomazine or placebo. Neither *Brāhmyādiyoga* and chlorpromazine were different.

Table 9

Response with Āyurvedic formulation in the M.P.Q. test

Assessment	Treatment				
	Brāhmyādiyoga	*Tagara*	Chlorpromazine	Placebo	Total
Improved	13	8	14	9	44
Not improved	10	16	9	16	51
Total	23	24	23	25	95

An seen in the above table only 95 patients are included in the analysis as only in these cases initial and final assessments could be done. The rest of the patients were unco-operative and did not comprehand the statements. x^2 test is used to find the association between improvement and treatment. X^2- 5.62; d.f. 0.3, (P > 0.10) not significnat.

M.P.Q. data indicate no significant difference between the proportion of improved cases in different treatments. This may be because scoring method used for M.P.Q. analysis is not adequate for before and after assessment. However, the tendency for the effectiveness of chlorpromazine and *Brāhmyādiyoga* may be seen.

Spiral after effect test (SAE) : The following table shows the results of the patients in whom the initial and final assessment of SAE duration could be done. SAE could not be found in the remaining patients either initially or finally as they were drop out or not attentive or could not comprehand the instructions. The value obtained by subtracting the final score from the initial is taken to measure the degree of improvement.

Table 10

Assessment in treatment through spiral after effect test

Treatments	No. of patients	Mean	SAE
Brāhmyādiyoga	16	0.9	1.2
Tagara	11	2.2	1.5
Chlorpromazine	14	3.5	0.6
Placebo	21	1.6	1.5

Mean decrease in SAE and its standard error

The four treatments were compared simultaneously for their mean improvement in mental status by analysis of variance technique (Table 10).

'f' = 1.013; d.f. 3.58; ($P < 0.20$) not significant. However the maximum dercrease in the chlorpromazine group may be noted.

Side effects : No trouble some side effects were observed except in two cases in chlorpromazine group who had to be treated with, for extrapyramydel reaction. A patient treated with *Brāhmyādiyoga* showed minor hypotension and the same was treated by reducing the dose. The systolic and diastolic hypotension was recorded 10-12 mm of Hg and 14-10-16 mm of Hg respectively.

Discussion : The study indicates that chlorpromazine to be significantly superior to *Tagara*. The overall effect of chlorpromazine is found to be better than *Brāhmyādiyoga* but the difference is not statistically significant. It has been observed that improvement in mental condition of the patients treated with *Brāhmyādiyoga* was found to be significantly more than that obtained with single drug *Tagara* and Placebo.

According to Āyurvedic classics the following are the qualities of the drugs used in *Brāhmyādiyoga* Anti-convulsant, increasing memory, tranquilising, sedative and hypnotic, anti-psychotic and brain tonic. With the above qualities the *Brāhmyādiyoga* might have acted in bringing down the abnormal *Tridoṣha* viz., *Vāta*, *Pitta* and *Kapha* into normal state and influence all the mental faculties viz., *Mana*, *Buddhi*, and *Smṛti* etc. The practice in Āyurveda is to use the combination of drugs also in both physical and mental disorders.

Regarding single drug *Tagara*, it is noted that it has some action on the patients. But it was not so effective as *Brāhmyādiyoga*. The possible explanation for this difference is, that a single drug may not be effective in normalising all the mental faculties and bringing down imbalance of the *Tridoṣa*. As expected the patients treated with placebo have not shown much improvement.

The assessments were carried out by scientist of various discipline viz., Āyurvedic physician, psychiatrist and clinical psychologist. All the three assessments are going in the same direction. The difference in results on SAE test may be because the interval between the initial and final assessments was too short. The number of patients with SAE date is small in the treatment groups. The negative results may be partly attributable to this.

In conclusion the study demonstrats, the anti-psychotic effect of *Brāhymyādiyoga*. It is clearly better than both *Tagara* and placebo. It is comparable to chlorpromazine, thus confirming the rationale of the compound preparation.

A double blind controlled study on the role of *Brāhmyādiyoga* and *Tagara* in *Jīrnomāda* (chronic schizophrenia)

Methodology

Level of study : Study was carried out at the IPD level

Design of study : It include the number of groups, number of patients in each group, type of study, nature of control, criteria for selection/exclusion of patients for/from the study, criteria for establishment of diagnosis of disease and criteria of the assessment of response of therapy.

Numbers of groups : These were viz. (i) *Brāhmyādiyoga* group, (ii) Chlorpromazine group and (iii) Placebo group.

Number of patients in each group : In all, 78 cases were taken for the study. Of them, 13 cases were dropped out for various reasons. Out of the 65 cases studied 23 belonged to *Brāhmyādiyoga* group, 22 belonged to chlorpromazine group and 20 belonged placebo group.

Criteria for selection : Patients of either sex between the age range of 20 to 50 years, with the chronicity of the illness between 2 and 6 years were selected for the study.

Diagnostic criteria : Psychiatric diagnosis was done on the basis of the WHO glossary of mental disorders and guide to their classification. Āyurvedic diagnosis was done according to the *Lakṣaṇa* present in the patients, definition of *Unmāda* and *Manaḥ Parīksha*.

Assessment of therapeutic responses : Psychiatric assessment was done on the basis of a psychiatric symptoms rating scales (H. Rockland Lawrence *et al.,* 1965). This scale is constructed for repeated use and needs brief interviews. It provides a quantified profile of the reflection of clinical judgement and impression of the degree and nature of psychotic symptomatology. The normality of the behaviour, effect or cognition is indicated by the zero score where as the psychopathology in these areas increases, the scroes become positive or negative. The whole-scale total scores are used as a quantitative measure of the psychoticness to compare patient to patient and to compare the patient over time. The degree of psychotic illness can be compared longitudinally as well as in the present. The balance of whole-scale positive or negative scores enables the rater to distinguish the inactive, withdrawn depressed patient from the hyperactive, talkative and the acting out one. The subtotals in each category indicate whether the major portions of patients psychopathology is in the

behaviour, effect or recognition. In this study, the scale was used to measure the acuteness of the illness in turns of symptomatology quantitatively in the same patients over a period of time.

Āyurvedic assessment : A qualitative assessment was carried out on the basis of (a) the examination of *Manas* (mind), *Buddhi* (decision), *Smṛti* (memory), *Sañjñājñāna* (orientation and responsiveness), *Bhakti* (desire), *Śīla* (habit), *Cestā* (psychomotor activity) and *Acāra* (conduct) in a proforma structured for this purpose, and (b) *Lakṣana* present/absent after the treatment period. Psychiatric and Āyurvedic assessment were carried before the start of treatment, on the 31st day of medication and finally on the 76th day i.e. after the completion of treatment.

Psychological assessment : The psychological assessments were done initially before starting the drugs and finally after the completion of the treatment. The following tests used for the assessments are measures of behavioural arousal which speak of the psysiological level of arousal. These tests indicate a change, as they measure different aspects like attention, alertness, vigilance scale indicates behavioural changes after the drug therapy. The tests are (1) reaction time, (2) critical flicker fusion threshold, (3) vigilance test and (4) Ferguse fall's behaviour rating scale.

Principle drug and the supporting therapy including diet prescribed : The three principle drugs were used (a) *Brāhmyādiyoga*, (b) chlorpromazine and (c) placebo.

Table 11

Dose and duration of treatment in *Jīrnonmāda* cases

Period of treatment (in days)	*Brāhmyādiyoga*	Chlorpromazine	Placebo
Up to 30	12 gms.	300 mg.	12 gms.
31 to 75	16 gms.	450 mg.	16 gms.

Per day in 4 equally divided doses, in tablet form with water.

Duration of treatment : 75 days.

Source of supply of drug : The sugar coated uniform tablets of the trial drugs were supplied by M/s. Eros Pharma, Bangalore against the supply of raw ingredients from the Unit. The raw herbal materials were procured from the local market and botanically identified. Details of the data of the study collected with respect to age, sex, duration and severity of illness given in Table 12, 13 & 14.

Table 12

Age distribution in *Jirnonmāda* cases

	Treatment		
	Brāhmyādiyoga	Chlorpromazine	Placebo
Mean	30.74	32.4091	32.1
S.D.	6.9493	7.2622	7.2104

'f' =0.3503, d.f. =2.62, P>0.05, the mean age and standard deviation for three treatment groups.

There is no statistically significnat difference between the mean age in the three treatment groups

Table 13

Sex distribution in *Jirnonmāda* cases

Sex	Treatment		
assessment	*Brāhmyādiyoga*	Chlorpromazine	Placebo
Male	12 (52%)	9 (41%)	9 (46%)
Female	11 (48%)	13 (59%)	11 (54%)
Total	23	22	20

x^2=0.5896, d.f.=2.629, P>0.05

Table 14

Duration of illness in *Jirnonmāda* cases

	Treatment		
	Brāhmyādiyoga	Chlorpromazine	Placebo
Mean	5.2062	4.7008	4.6333
S.D.	2.1514	1.7722	1.8830

'f' =0.51514, d.f. =2.62, P>0.05, the mean duration of illness, and standard deviation for three treatment groups.

There is no difference in the mean duration of illness in the three treatment groups.

Table 15

Severity of illness in initial symptomatic rating scale

	Treatment		
	Brāhmyādiyoga	Chlorpromazine	Placebo
Positive score			
Mean	25.9130	24.6363	24.50
S.D.	12.75	12.4806	11.4639
Netative score			
Mean	25.9130	17.0080	20.50
S.D.	12.75	12.4806	11.4639
Total score			
Mean	45.9565	41.6363	45.2
S.D.	16.3831	18.9273	15.4872

'f' =0.6177, df=2.62, P>0.05

There is no statistically significant difference in the severity of the illness between the patients allotted to three treatment groups.

Table 16

Assessment of trial after completion of study

Treatement	Marked relief	Moderate relief	Mild relief	No relief	Death	LA MA	Total
Brāhmyādiyoga	4	4	5	10	-	-	15
Chlorpromazine	13	1	2	7	-	-	23
Placebo	2	-	3	15	-	-	20

x^2=19.5515, df=2, P>0.001

The proportion of improvement is largest in chlorpromazine group followed by *Brāhmyādiyoga* and placebo, the difference being statistically significant ($P < 0.001$).

Table 17

Symptoms rating scale in initial cases of *Jīrnonmāda*

	Treatment		
	Brāhmyādiyoga	Chlorpromazine	Placebo
Positive Score[1]			
Mean	25.9130	24.6363	24.20
S.D.	12.75	12.4806	13.4775
Negative score[2]			
Mean	19.608	17.00	20.50
S.D.	9.7502	18.9414	11.4639
Total scores[3]			
Mean	45.9565	41.6363	45.2
S.D.	16.3831	18.9273	15.4872

'f^1'=0.1046, 'f^2'=0.06177; 'f^3'=0.4056, df=2.62, $P>0.05$, in all three scores the difference among the three treatment groups is not statistically significant ($P>0.05$)

Table 18

Middle assessment in *Jīrnonmāda* patients

	Treatment		
	Brāhmyādiyoga	Chlorpromazine	Placebo
Positive score[1]			
Mean	20.3913	12.6364	22.2
S.D.	16.3255	10.6661	12.6225
Negative score[2]			
Mean	19.6957	14.0455	21.15
S.D.	13.3840	10.6031	10.2407
Total score[3]			
Mean	40.0870	27.1364	43.35
S.D.	25.4949	17.3543	17.1687

'f^1=3.0518, 'f^2=2.2618', 'f^3=3.7359, df=2.62, $P>0.05$.

The differerence among the three treatment groups in not satistically significant (P < 0.05) i.e. and positive negative score in total score. The improvement in the chlorpromazine group is better than that of *Brāhmyādiyoga* and placebo (P < 0.05), but the difference between *Brāhmyādiyoga* and placebo is not statistically significant.

Table 19

Final assessment in the cases of *Jīrnonmāda*

	Treatment		
	Brāhmyādiyoga	Chlorpromazine	Placebo
Positive score[1]			
Mean	17.3810	8.1364	22.5
S.D.	8.9693	9.5683	15.1883
Negative score[2]			
Mean	20.8095	10.4545	17.60
S.D.	11.7585	8.6834	13.7205

'f'[1]=7.9576, 'f'[2]=3.3004, df=2.62, P>0.05

The mean improvement in chlorpromazine group is statistically significant than that of *Brāhmyādiyoga* and placebo and the difference between *Brāhmyādiyoga* and placebo is also not statistically significant.

Analysis of difference between before and after of the three treatment groups was also carried out (Table 20).

Table 20

Results of three treatment groups of *Jirnonmāda*

	Positive score	Negative score	Total score
Brahmyādiyoga			
Initial mean	25.9130	19.6087	45.9565
Final mean	17.3810	20.8095	38.1905
't' Value	2.6318	0.3284	1.9632
df	2.620	2.620	2.620
'p' value	>.05	NS	NS

Cont.....

	Positive score	Negative score	Total score
Chloropromazine groups			
Initial mean	24.6363	17.0000	41.6363
Final mean	8.1364	10.4545	18.70
't' Value	7.2876	1.9428	4.8146
df	20	20	20
'p' value	>.001	NS	< .001
Placebo group			
Initial mean	24.20	20.50	45.2
Final mean	22.5	17.6	40.1
't' value	0.6604	1.5095	1.2545
'p' value	NS	NS	NS

NS = Not significant

The difference between the initial and final scores, the positive score of *Brāhmyādiyoga*, positive and total score of chlorpromazine are statistically significant while rest of the scores in all three groups are not statistically significant.

Comparison of the three groups (*Brāhmyādiyoga)* chlorpromazine and placebo show that there is no significant difference on any of the psychological tests among the three groups, before the commencement of the drug trial on the initial assessment.

The result show that both *Brāhmyādiyoga* and placebo group do not show significant difference between their initial and final performances on the various psychological tests whereas, the chlorpromazine group has shown significant difference on all the tests between their initial and final performances.

In summary, it is seen from the results that *Brāhmyādiyoga* has not been able to show significant improvement in the basic psychological processes as well as in the behavioural manifestations.

Table 21

Psychological Assessment

Parameter		*Brāhmyādiyoga*	Chlorpromazine	Placebo	'f'	df	significance
Reaction time (simple)	M	3.62	4.3964	3.936	0.3108	2.61	N.S.
	SD	3.7529	4.5711	3.4872			
Reaction time (choice)	M	4.0682	4.0468	4.201	0.0411	2.61	N.S.
	SD	3.4964	3.8697	3.1494			
Cricitical flicker fusion threshold (simple)	M	3.3818	3.1891	3.0795	0.517	2.61	N.S.
	SD	0.4178	0.4173	0.6896			
Criticial flicker fusion threshold (alternate)	M	3.2405	3.1968	3.0795	0.1890	2.61	N.S.
	SD	0.4798	0.4317	0.6896			
Vigilance I	M	28.7646	27.2727	24.875	0.2205	2.61	N.S.
	SD	21.3718	18.3788	16.0061			
Vigilance II	M	34.3318	34.4091	41.60	0.7061	2.61	N.S.
	SD	20.7246	22.3354	26.4480			
F.F. Behavioural Rating Scale	M	26.0870	22.5909	24.95	3.6234	2.61	
	SD	4.6045	7.5634	4.6280			N.S

Brāhmyādiyoga to chlorpromazine 't' = 2.0102; *Brāhmyādiyoga* to placebo 't' = 0.6380; N.S.; Chlorpromazine to Placebo 't' = 1.3237, N.S.; S = Significant; M = Mean; SD = Standard daviation; The above shows that there is homogenity in the sample groups.

Table 22

Psychological assessment

	R.T.S.	R.T.C.	C.F.F.T.S.	C.F.F.T.A.	V.I	V.II	F.F.BRS
Brāhmyādiyoga							
Initial mean	3.62	4.0602	3.3818	3.2405	28.7046	34.3318	26.0870
Final mean	3.5181	3.9286	3.1462	2.89	28.9761	39.2143	23.3182
't'	0.2474	0.2551	1.4995	0.2303	0.7229	0.4218	0.5128
'p'	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.
Chilopromezine							
Initial mean	4.3964	4.0468	3.1891	3.1968	27.2727	34.4091	22.5905
Final mean	2.1682	2.3322	3.4436	3.4309	38.1364	22.9318	13.6818
't'	2.4514	1.8557	0.7866	2.3105	3.0649	3.4643	5.7327
'p'	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	S	N.S.	S	S	S	S	S
Placebo							
Initial mean	3.936	4.201	3.033	3.0795	24.875	41.8	24.95
Final mean	3.9795	4.3955	3.27	3.3444	22.42	36.674	23.00
't'	0.0582	0.4927	1.7433	1.9050	0.4975	0.4282	1.3744
'p'	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.

NS = Not significant, S = Significant, RTS = Reaction time (simple), RTC = Reaction time (choice), C.F.F.T.S. = Critical flicker fussion threshold (simple), C.F.F.T.A. -- flicker fussion threshold (alternate), V.I &II = Viglance I & II, F.F.B.R.S. = Behavioural rating scale

Table 23

Side effects, degree of severity, age, sex, *Prakṛti* wise classification

Side effects	Days	Study No.	Treatment group	Age	Sex	*Prakṛti*	Severity	Criteria
Drowsiness (initially)	3	1	T_2	27	M	*Vāta Kapha* (VK)	Moderate	Clinical condition
Drowsiness (initially) Giddiness (initially)	4 3	3	T_2	26	F	*Vāta* (V)	Moderate	Clinical condition
Drowsiness Excessive sleep (initially)	4 3	27	T_2	25	F	*Vāta Pitta* (VP)	Moderate	Clinical condition

No side effects were encountered in T_3 group (Placebo). T_1 and T_2 indicate *Brāhmyādiyoga* treated group and chlorpromazine treated group, resepctively.**

Interpretation of results of the study in relation to the age, sex, *Prakṛti* duration of diseases, severity of diagnosis or assessment of the therapy : Results indicate that *Brāhmyādiyoga* is having anti-psychotic effect in respect of the symptoms as evidenced by the significant before/after significance. However, such effect is significantly inferior to that exerted by chlorpromazine. It may be recalled here that this is in partial agreement with the finding of the acute trial. Why is the present trial *Brāhmyādiyoga* is significantly inferior to Chlorpromazine is not clear. Whether it is due to the inferior potency of this particular batch of drugs or because of the need for a higher potency in chronic patients is not known.

Special observation resultant of study, needs to be highlighted :It is important to undertake the relevant basic studies on *Brāhmyādiyoga* like, bioassay of the individual ingredients for their anti-psychotic potency, hepatotoxicity, and hypotensive effects. When this data is availabe, it should be possible to modify *Brāhmyādiyoga* suitable for its safe and effective use in the management of chronic schizephrenia. Until such time it is advisible not to exceed the dosage used in the present study and to carefully monitor liver functions.

** No remarkable change was noticed in the blood picture. In 3 of the *Brāhmyādiyoga* treated patients elevations of bilirubin, SGOT and SGPT values were observed.

Table 24

Side effects, degree of severity; age, sex & *Prakṛti* wise classification

Side effects	Days	Study No.	Treatment group	Age	Sex	*Prakṛti*	Severity	Criteria
Drowsiness Giddiness	2 2	30	T_2	31	F	VK	Moderate	Clinical condition
Weakness Excessive sleep	4 2							
Giddiness Intensive thirst	2 75	74	T_2	42	F	PV	Moderate	Clinical condition
Nasuea/vomiting Excessive sleep	8 4	7	T_1	24	F	VK	Moderate	Clinical condition
Nausea/vomiting Excessive palpitation	30 5	9	T_1	31	M	KV	Moderate	Clinical condition
Vomiting	4	15	T_1	20	M	KP	Moderate	Clinical condition
Nasuea/vomiting	27	25	T_1	32	F	VK	Moderate	Clinical condition
Nasuea/vomiting	11	31	T_1	32	F	VK	Moderate	Clinical condition
Nausea/vomiting	17	42	T_1	20	F	V	Moderate	Clinical condition
Nasuea/vomiting Giddiness	48 67	68	T_1	35	F	VP	Moderate	Clinical condition
Kāmala (developed on 71st day of the trial)	4	73	T_1	32	F	KV	Moderate	Clinical condition
Vomiting	1	76	T_1	40	F	P	Moderate	Clinical condition

V = *Vāta*, K = *Kapha*, P = *Pitta*, T_1 = Chlorpromazine group, T_2 = *Brāhmyādiyoga*

The drug bulk posed considerable difficulty in the administration of the trial tablets. It would be appropriate if the total extract of *Brāhmyādiyoga* is administered instead of the whole drug/tablets. Besides losing its bulk and becoming easily acceptable to the patients; the extract (not the active principle) can also be preserved for longer duration without any jeopardy to its potency unlike whole drug powders.

Summary and Conclusions

The effect of *Brāhmyādiyoga* was compared with that of chlorpromazine and placebo in 65 patients, in a double blind controlled study. The study has revealed that *Brāhmyādiyoga* is better than placebo although chlorpromazine stood out to be significantly better than both *Brāhmyādiyoga* and placebo.

The study reveals that *Brāhmyādiyoga* can be fairly dependable Āyurvedic drug for a general Āyurvedic practitioner.

A controlled study on the role of classical Āyurvedic treatment in acutely ill patients with *Unmāda* (schizophrenia)

Āyurveda generally advocates multipronged therapeutic strategy comprising of both purificatory and palliative as well as internal and external drug administration for lasting relief to the patient. Therefore in this study, the efficacy of Āyurvedic treatment comprising of both *Śodhana* (purificatory) and *Śamana* (palliative) measures was compared with that of the well known antipsychotic drug chlorpromazine in the acutely ill patients suffering from schizophrenia (*Unmāda*).

Methodology

36 patients of either sex in the age range of 16 to 45 years suffering from schizophrenia with active psychotic symptoms of a minimum duration of one month were selected for the study. Patients with chronicity of more than 10 years and physical complications of other diseases like epilepsy, mental retardation etc, were excluded from the study. Out of the 36 patients selected, 18 were studied in each group (Āyurvedic and CPZ group). Of them, 2 were dropouts, since they left hospital duirng the course of the treatment and 3 patients were rejected (two on account of revised diagnosis and one patient on account of being given a different anti-psychotic drug).

Diagnosis : Psychiatric diagnosis was done on the basis of ICD 9 (WHO). Āyurvedic diagnosis was done on the basis of definition and symptoms of *Unmāda* as given of Caraka.

Type of study : It was a rater blind study.

Nature of control : Efficacy of Āyurvedic treatment was compared with a known anti-psychotic drug. In view of different types of Āyurvedic treatments that being chosen in treating the patients, it was not possible to have identical treatment in both the groups. Control group was administered standard modern treatment.

Assessments : (a) Āyurvedic assessment was carried out on the basis of (i) the examination of mental aspects i.e. *Manas, Buddhi, Sañjñāna, Smṛti, Bhakti, Śīla, Cestā* and *Acāra* and (ii) presence of the *Lakṣana* of various *Doṣaja Unmāda* as explained in the Āyurvedic classics and as detailed in the monograph. The assessments were carried out on a rating scale structured for this purpose. The scores for various items were given considering their clinical importance, based on earlier studies.

(b) Psychiatric assessment was done on the basis of the Brief Psychiatric Rating Scale (BPRS). The Āyurvedic and psychiatric assessments were done initially and weekly thereafter.

(c) Psychological assessment was focussed on assessing cognitive functions that are generally considered sensitive improvement during treatments. The functions chosen are behavioural arousal and alertness, information processing, learning and memory functions and ideational fluency. Psychological assessments were done initially before the commencement of the treatment and finally after the complation of the treatment. The test adminsitered were reaction-time, vigilance, learning and memory function test-verbal form and the ideational fluency.

Reaction time (Zahn & Carpenter, 1978) : The test consisted of simple and choice items using standard techniques. Both the series consisted of 10 practice trials followed by 20 test trials each, and RT was recorded in milliseconds.

Vigilance (Davis & Tune Kornetsky & Qrzack, 1978 and Bakan, 1969) : Two series of two auditory stimuli paired at random, with one occurring infrequently were presented to the subject with a change in the random order of presentation in the second series. The number of infrequent signals correctly detected constituted the score of this test.

Learning and memory functions text - verbal form (Mukundan *et al.*, 1979 & 1987): Two passages were used for the verbal form of the test. The test employed immediate recall over three consecutive trials and a delayed recall. The test indicated improvement by learning as well as loss of information if any during delay.

Ideational fluency (Miller, 1984; Barkowski, 1967) : Here the subject made structured free association by naming objects made of wood, iron and round objects, on different trials. The number of average correct responses was recorded.

Investigations : Following investigations were carried out before and at the end of the treatment.

(i) Blood for T.L.C., D.L.C., E.S.R., Urea and liver functions.

(ii) Urine for sugar and albumin.

(iii) Body weight

(iv) E.C.G.

Treatment

(1) Āyurvedic treatment (Ay. group) :

In this study it was intended to examine the combined effect of the general line of Āyurvedic treatment comprising of *Śodhana* (cleaning) and *Śamana* (palliative) measures and *Satvāvajayacikitsā* (psycho-behavioural therapy) as follows :

1. *Snehapana* : *Kalyāṇkaghṛta* for 3-7 days increasing @ 10 ml. daily, 15 ml daily.

2. *Āyushman* 13 *(Brāhmyādiyoga* 500 mg.) 2-2-2, & *Ayushman* 14 *(Nidrākarayoga)*, 2-0-2.

3. *Mṛdu Abhyaṅga* with *Dhānvantara Taila* for two days after *Snehana* followed by *Vāṣpasvada* with hot water.

4. *Virecana Kaṣāya* - 75 ml. (with 1-2 *Ichabhedi Vati* whenever required). This *Kaṣāya* was prepared by boiling 10 gms each of *Āragvadha, Harītaki* and *Drākṣā* in 150 ml. of water and reducing it to 75 ml.). Item 2 was stopped for 2 days i.e. on the day of *Virecana* and the following day.

When the symptoms did not subside by 50% by the 15th day of the start of treatment, the following treatment was given.

1. *Kalyāṇakaghṛta* in case of *Vātapittonmāda* and *Pañcagavyaghṛta* in case of *Kaphonmāda* 10 ml. once.

2. Item 2 and *Unmādagajakesari Rasa* 200 mg. plus *Sūtasekararasa* 200 mg. twice daily after meal.

3. Item 3 was given weekly 3 times daily.

4. *Sārasvatāriṣta* 10 ml. and *Aśvagandhāriṣta* 10 ml. twice daily after meals.

If the patient was withdrawn and less active, *Ayushman* 16 *(Viśādahara Yoga* Annex. II) was given in place of Ayushman 13 *(Brāhmyādiyoga)* along with other drugs for two weeks. For patients who were hyperactive, restless and who had sleep disturbance, *Mastiṣkya* and *Āmalakicūrṇa* 20 gms, *Kuṣṭha* 10 gm, *Karpūra* 500 mg and *Khasakhas* 20 gm. was used with plain water daily 2-4 times.

In addition to the above, patients from both the groups were allowed to play or were sent to OCT (occupational therapy).

2. Modern treatment (CPZ group)

1. Anti-psychotic : Tab. chlorpromazine 300 mg/day was started as minimum dosage, which was further increased to 600 mg per day after 15 days if the improvement was less than 50%.

2. Anti-cholinergies-trihexiphenidyl HCl 2 mg. tab. was started alongwith the antipsychotic drugs to reduce the complication of extra pyramidal symptoms.

3. Minor tranquilizers - Diazepam inj. or tab. was administered in unmanagable cases in both Āyurveda and CPZ groups.

Duration of treatment was 28 days.

Table 25

Mean age of the two treatment groups of *Unmāda*

Drug	Mean	Standard deviation
Ay. group	27.0	8.2
CPZ group	26.3	6.5

't'=0.2371, d.f.=29, &P>0.10,

The difference of mean age in two treatment groups is not significant.

Table 26

Mean duration of illness for the two treatment groups

Drug	Mean	Standard deviation
Ay. group	32.1	30.1
CPZ group	32.7	24.6

't'=0.0668, d.f.=29&P>0.10

The difference in the distribution in the two groups according to duration of illness is not significant

Table 27

Mean initial score for the two treatment groups

Drug	Mean	Standard deviation
Ay. group	23.4	3.9
CPZ group	30.0	9.0

't'=2.715, d.f.=29&P>0.10

Results

Results of the psychiatric and Āyurvedic assessments, between the group and within group comparisons are given in Table 28 to 32 and Fig. I to IV.

Table 28

Improvement on the basis of global assessment in the two treatment groups

	Ay. group	CPZ groups
Mean	3.2	3.4
SD	1.3	1.6

't'=0.2534, d.f.=29, P>0.10.

Comparision on psychiatric rating scale (BPRS), Āyurvedic assessments, and global assessments indicate that (a) there is no difference between the two treatment groups in their psychopathological conditions, (b) within each treatment group there is a statistically significant reduction in psychopathology on all assessment occasions.

Table 29

BPRS total psychopathology acores through successive psychiatric assessment in the two treatment groups

Assessment	Ay. group		CPZ group		't' value	df	'p'
(in weeks)	Mean	SD	Mean	SD			
Initial	23.4	3.9	30.0	9.0	2.715	29	P < 0.05
Ist	17.4	7.1	18.2	10.7	0.2702	29	P > 0.10
2nd	15.5	7.5	17.5	10.4	0.4256	29	P > 0.10
3rd	14.4	8.9	14.2	10.0	0.058	29	P > 0.01
4th	11.5	7.9	12.7	9.9	0.3698	29	P > 0.10

It may be noted that the psychopathology mean score was significantly higher in CPZ group initially, but the two groups did not differ in any of the subsequent occasions. This holds good even when corrected for initial difference (Fig. I).

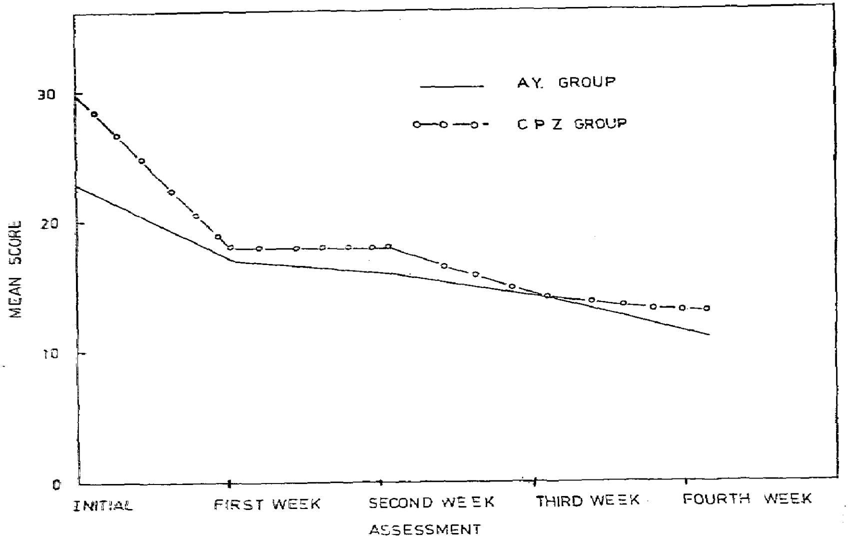

Fig. I : Mean total psychopathology score on psychiatric (BPRS)

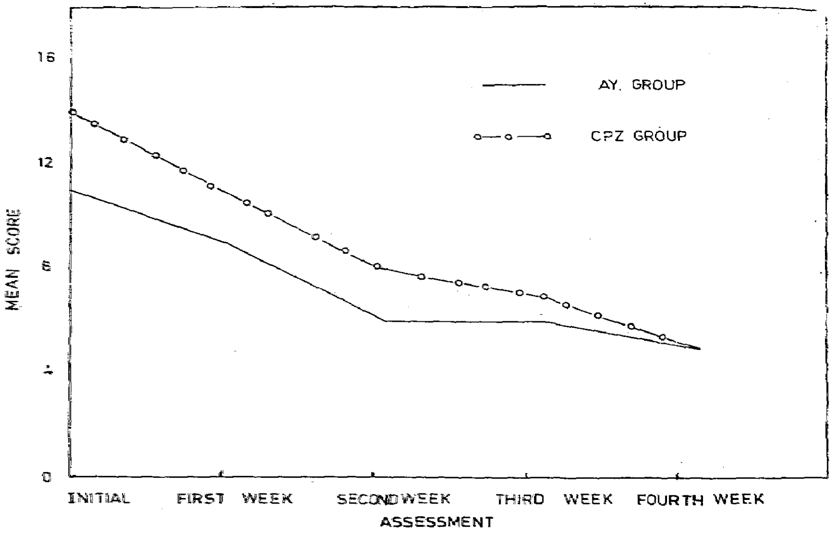

Fig. II : Mean total score in Āyurvedic rating (*Manas*)

Table 30

Reducation in psychopathology score through successive psychiatric (BPRS) assessment

Comparison of assessment	Treatment groups	Mean difference	S.D.	S.E. of mean difference	't' value	df	'p' value
D-1	Ay.	6.0	7.8	1.9	3.1	16	<0.01
	CPZ	11.7	12.9	3.4	3.0	13	<0.01
D-2	Ay.	7.8	8.2	1.9	3.9	16	<0.01
	CPZ	12.5	12.4	3.3	3.7	13	<0.01
D-3	Ay.	9.0	8.1	1.9	4.6	16	<0.001
	CPZ	15.8	14.1	3.7	4.2	13	<0.01
D-4	Ay.	11.9	7.2	1.7	6.0	16	<0.001
	CPZ	17.3	14.2	3.7	4.5	13	<0.001

S.D. = Standard deviation, SE = Standard error.

Table 31

Psychopathology on Āyurvedic assessment (*Manas* and symptoms score) through successive treatment in both groups

Assess-ment	Scale	Ay. group		CPZ group		't'value	df	'p' value
		Mean	SD	Mean	SD			
Initial	MS	11.4	3.6	14.2	4.3	1.974	29	>0.10
	SS	54.7	20.1	57.9	19.5	0.4413	29	>0.10
First	MS	9.4	4.9	10.5	6.4	0.5039	29	>0.10
	SS	36.8	16.7	33.6	16.9	0.5256	29	>0.10
Second	MS	6.3	4.6	8.2	6.9	0.9833	29	>0.10
	SS	27.1	18.1	29.2	17.9	0.3243	29	>0.10
Third	MS	6.2	4.8	6.9	5.3	0.3802	29	>0.10
	SS	22.7	15.3	25.6	16.9	0.4969	29	>0.10
Fourth	MS	4.9	4.2	4.8	5.0	0.0505	29	>0.10
	SS	22.5	15.2	21.6	20.3	0.1388	29	>0.10

MS = *Manas* scale, SS=Symptoms scale.

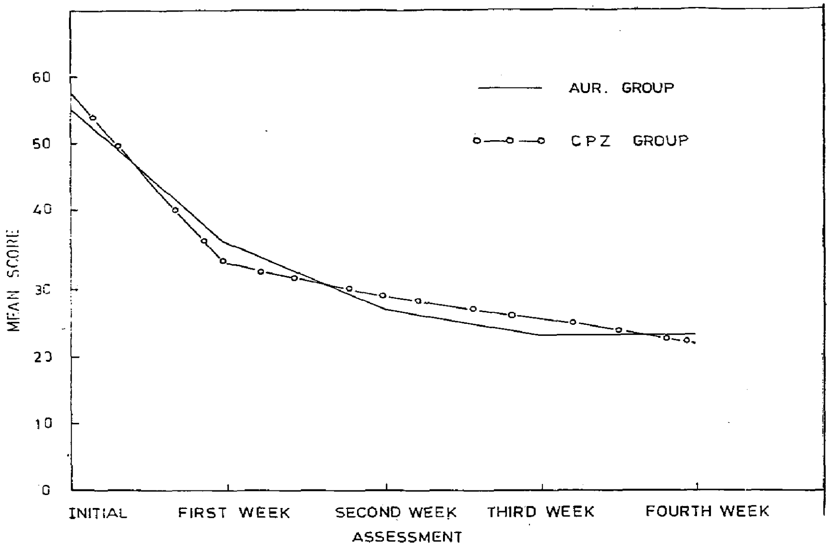

Fig. III : Mean total score on Āyurvedic rating (symptoms)

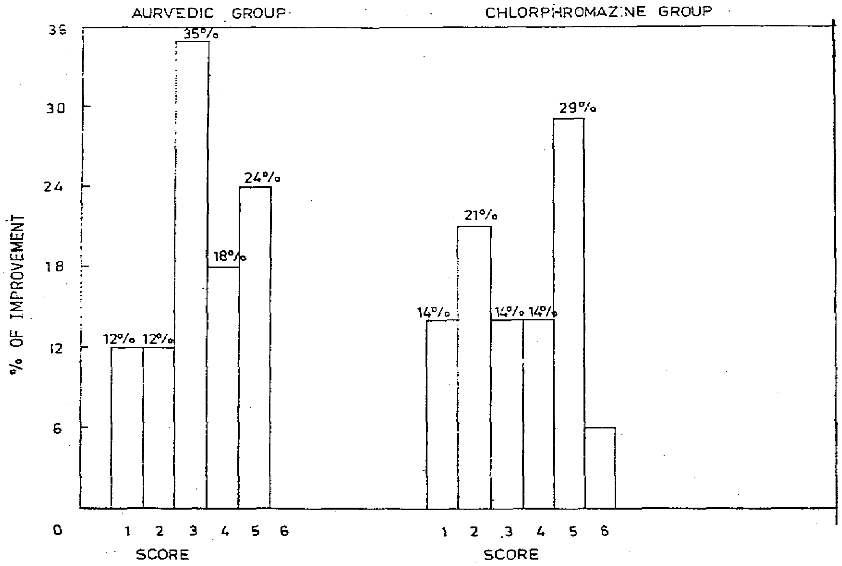

Fig. IV : Categorywise percentage of patients on clinical improvement.

The between group comparison was done by F. test. The results on the reaction time test showed no evidence of a significant difference between the two treatment groups. The two treatment groups did not differ on simple reaction time measures whereas a significant difference ($P < 0.05$) was noticed on the choice reaction time measures. *Brāhmyādiyoga* treatment group showed higher reaction time as compared to CPZ group.

Table 32

Reduction in psychopathology on Āyurvedic assessment (*Manas* and symptoms) within each of the two treatment groups

Treatment (in groups)	Scale	Mean difference	S.D.	S.E. of mean difference	't' value	df	'p' values
Ay.	MS	2.0	3.4	84017	2.3	16	>0.05
	SS	17.9	19.2	4.6	3.8	16	>0.01
CPZ	MS	3.7	5.6	1.4	2.5	13	>0.05
	SS	24.3	26.5	7.0	3.4	13	<0.01
Ay.	MS	5.1	3.5	86976	5.8	16	>0.001
	SS	27.5	19.1	4.6	5.9	16	>0.001
CPZ	MS	6.0	7.1	1.8	3.1	13	>0.01
	SS	28.6	26.1	6.9	4.1	13	<0.01
Ay.	MS	5.2	3.7	90151	5.8	16	<0.001
	SS	3.20	20.4	4.9	6.4	16	>0.001
CPZ	MS	7.3	5.3	1.4	5.1	13	>0.001
	SS	32.2	27.0	7.2	4.4	13	>0.001
Ay.	MS	6.5	2.9	71.289	9.1	16	>0.001
	SS	32.0	20.4	4.9	7.1	16	>0.001
CPZ	MS	9.4	5.6	1.4	6.2	13	>0.001
	SS	36.2	26.3	7.0	5.1	13	>0.001

Ay. = Ayurvedic, CPZ = Chlorpromazine, S.D. = Standard deviation, SE = Standard error, MS = Manas scale, SS=Symptoms scale.

Table 33

Means and standard deviations of psychological tests scores within groups

Assessment	*Brāhmyādiyoga* group				Chlorpromazine group			
	x	c	't'[1] value	'p' value	x	c	't'[2] value	'p' value
Simple reaction time	1409	851.4	2.103	<0.05	1527.8	1062.3	2.585	<0.05
Choice reaction time	1622.7	1198.1	1.659	>0.05	2911.4	2111.4	1.303	>0.05
Vigilance I	38.5	65.8	3.234	>0.05	21.4	43.3	2.517	>0.05
Vigilance II	43.4	74.2	3.08	>0.05	17.1	47.6	4.087	>0.01
LMFT* passage for I group								
Trial I	3.2	6.2	3.3643	>0.01	2.8	6.7	3.7026	>0.01
Trial III	5.6	8.8	2.4924	>0.05	3.9	9	3.4999	>0.01
Delayed memory	4.9	8.2	1.9494	>0.05	2.9	8.6	3.5681	>0.01
LMFT passage passage for II group								
Trial I	1.8	5.3	3.599	>0.01	2.4	5.4	3.4534	>0.01
Trial III	3.5	7.4	2.5833	>0.05	3.8	7.2	2.5858	>0.05
Delayed memory	3.3	6.9	2.5681	>0.05	3.6	6.4	2.3895	>0.05
Ideational (fluency test)	4.4	5.0	0.554	>0.05	2.9	6.1	4.31	>0.01

*LMFT - Learning and memory function test, Vigilance-II of *Brāhmayādiyoga* have 't'[1] value at df = 10, while in other group's of this study 't'[1] value of chlorpromazine at df = 12, 't'[2] value at df = 13, x= Initial, c = Finl.

There is no significant difference between the means of various other tests in the initial assessment. A similar picture emerges in the final assessment as well. The two groups with different modalities did not show evidence of a significant difference on the various tests except the choice reaction time.

Paired 't' test was done to determine the difference within the groups between the initial and the final assessments. Significant improvement was seen on tests of vigilance, verbal learning and memory functions in both the groups. The

improvement seen in the CPZ treatment group was found to be greater than that seen in the *Brāhmyādiyoga* treatment group. However this difference was not statistically significant.

Significant improvement was seen on some of the psychological tests after the administration of Āyurvedic treatment. That the two groups did not significantly differ in the final assessment on any of the tests indicates that the Āyurvedic treatment could have been almost as effective as the CPZ treatment. However, significant improvement in the Āyurvedic group was seen on fewer tests as compared to the CPZ group. Nevertheless they are indicative of a significant improvement in the cognitive functions of the patient. That the difference in scores (between initial and final) between the two groups did not significantly differ, further confirms the efficacy of the Āyurvedic treatment in bringing about improvement in some of the psychological functions in the patients.

Investigations

There was no significant before and after effects on before and after comparison, as well as on between group comparison on various laboratory investigations and EGC.

Discussion

Since schizophrenic patients were the primary selection criterion and these patients fell into different *Doṣic* types from Āyurvedic point of view, the treatment was scheduled in a general way to take care of these *Doṣic* differences. Chlorpromazine is well established for its anti-schizophrenic effects. The Āyurvedic treatment possessed *Vyadhipratyanīka* and *Doṣapratyanīka* qualities.

Earlier studies have shown that the difference between Āyurvedic treatment *Brāhmyādiyoga* and chlorpromazine was not statistically significant and Āyurvedic general lines of treatment is effective in 88.5% of the patients of different types of *Unmāda* (Ramu, *et al.*).Hence the results of both treatment in *Unmāda* (schizophrenia) patients is only as expected. This suggests that the Āyurvedic treatment is efficacious against *Unmāda* atleast to the level of that of the standard drug chlorpromazine.

Due to constraints of having to administer the Āyurveda treatment within the limitations of a rigid schedule as expected in modern research methodology, it was not possible to fully exploit the Āyurvedic treatment. In the ordinary course, Āyurvedic treatment is optionally given by sensitively adjusting dose, combination on the basis of *Doṣa, Dūṣya, Bala, Prakṛti* etc.

There is further need to take up studies to assess the relative efficacy of various compound preparations as well as the individual ingrediants with a view to refining the regimen. It is also desirable to work towards the preparation of total extract to reduce the bulk and permit to work with larger doses in needing cases. A further aspect that needs to be looked at is the probablity of relapses and occurrence of any long term adverse effects. Modern drugs are already known to have certain neurotoxic effects especially the movement disorders. If the Ayurvedic drugs are demonstrated to be free from such effects even on long term use that would be a matter of great theoretical interest and practical use.

APPENDIX

A Ayurvedic methodology of clinical examination (mental disorder)

1. ***Śīla*** (habits, etc.)
   - (i) Habits
   - (ii) Temperature
   - (iii) Physiological functions
   - (iv) Leisure time activity personal cure
   - (v) Leisure time activity
2. ***Ceṣṭā*** (psychomoter activity)
   - (i) General motor activity
   - (ii) Speech
   - (iii) Facial expression and posture
3. ***Ācāra*** (conduct)
   - (i) Personal standards
   - (ii) Social standards
4. ***Manaḥ*** (mind)
   - (i) *Indriyābhigrahaha* (perception and motor control.)
   - (ii) *Manonigrahaha* (mental control)
   - (iii) *Oohā* (Guess)
   - (iv) *Vichāraha* (tought)
5. ***Budhi*** (decision)

7. ***Smṛti*** (memory)

8. *Sañjñājañāna* (orientation and responsiveness)

(i) Orientation to :

(a) *Deśa* (place)

(b) *Kāla* (time)

(c) *Ātmajñāna* (person)

(ii) Responsiveness to external stimuli

8. *Bhakti* (desire)

Desire in relation to :

(i) *Āhāra* (food)

(ii) *Vyavāya* (sex)

(iii) *Vesma* (dress)

(iv) *Ranjanam* (entertainment)

(v) *Anya* (others)

उन्मादं पुनर्मनोबुद्धि संज्ञाज्ञान स्मृति भक्ति शील चेष्टाचार विभ्रंशं विद्यात्।। च. नि., ७।।
Unmādan Punarmanobudhi Sañjñājñāna Smṛiti Bhakti Shīla Cestācara Vibhramsam Vidyāt (Ch. Ni. 7).

1. *Manaḥ Parīksha Patrakam* (proforma for mental examination)

Name :		Number	A.R.U.	Hospital
Age :	Sex :	O.P.		
Date of registration :		I.P.		
Literate/Illiterate :		Rural/Urban :		Religion :
Education :		Languages known :		
Occupation :		Income :		

Marital status : Single/Married/Divorced/Separated/Widow/Widower

Address :

Identification marks : 1.

2.

Prevopis admissions to hospitals :

Precautions against : Suicidal/Homicidal/Epileptic/Dangerous/Destructive/ Escaping tendencies.

Final diagnosis :

Parole :	From	To	From	To

Date and mode of discharge :

Discharge/Escape/Discharge against medical advice/Death

Condition at the time of discharge :

Recovered/Much improved/Improved/Slightly improved /Not improved

Date : Signature of Physician

I. *Āvedakaḥ* (informant)

II. ***Pradhāna Vedanā*** (chief of complaint)

III. ***Vedanāvrittam*** (history of present illness)

IV. ***Pūrvavyādhivrittam*** (medical history)

V. ***Kulavrittam*** (family history)

VI. ***Śīla*** (habits, etc.)

Intact/Moderately changed/Grossly changed/Grossly changed/Cannot be tested

(i) Habits

1.	*Vinidrā* (sleeplessness)	Present/Absent
2.	*Svapnanityatā* (desirous of seclusiveness)	Present/Absent
3.	*Rahaskāmatā* (desirous of seclusiveness)	Present/Absent
4.	*Abhīkṣṇam Asthāne Hasanam* (excessive and/or inopportune laught/smalling)	Present/Absent
5.	*Abhīkṣṇam Asthāne Rodanam* (excessive and/or inopportune weeping/crying)	Present/Absent
6.	*Arocakam* (tastelessness)	Present/Absent
7.	*Chardihi* (vomiting)	Present/Absent
8.	*Alpāharām* (undereating)	Present/Absent
9.	*Bahubhūk* (overeating)	Present/Absent
10.	*Bhunkte Balam* (post prandial aggravation)	Present/Absent
11.	*Fīrne Balam* (post digestion aggravation)	
12.	*Rātrau Bhrisham bhavati* (nocturnal aggravation)	Present/Absent
13.	*Anya* (others)	

(ii) Temperament

1.	*Krodhaha* (anger)	Present/Absent
2.	*Santarjanam* (threatening)	Present/Absent
3.	*Anya* (others)	

(iii) **Physiological functions**

1. *Svedabahulaha* (excessive perspiration) — Present/Absent
2. *Tritbahulaha* (excussive thirst) — Present/Absent
3. *Svāṣāturaha* (dyspnoea) — Present/Absent
4. *Kāsa* (cough) — Present/Absent
5. *Nārīpriyatā* (desirous of women/sex) — Present/Absent
6. *Sadanam* (weakness) — Present/Absent
7. *Anya* (others)

(iv) **Personal care**

1. *Malopadigdhākshitva* (eyes covered with mucosoal discharge) — Present/Absent
2. *Lālosrāva* (dribbling of saliva) — Present/Absent
3. *Asyāt Phenāgamanam* (frothing from the mouth) — Present/Absent
4. *Singhānaka Srāvaha* (excessive flow of nasal discharge) — Present/Absent
5. *Analankāiralankaranam* (adorning person with unornamental things) — Present/Absent
6. *Anya* (others)

(v) **Leisure time activity :**

VII. *Cestā* (psychomotor activity)

Intact/Moderately changed/Grossly changed/Cannot be tested

(i) **General motor activity**

1. *Abhīkṣṇam Asthāne Nartanam* (excessive and/or inoppotune dancing) — Present/Absent
2. *Abīkṣṇam Asthāne Vādanam* (excessive and/or inopportune playing of musical instrument) — Present/Absent
3. *Abhīkṣṇam Asthāne Gāyanam* (excessive and/or inopportune singing). — Present/Absent

4. *Ajasram Parisaranam* (constant rambling) Present/Absent

5. *Akasmātangavikshepanam* (sudden jerking of body parts) Present/Absent

6. *Abhidrāvanam* (escaing) Present/Absent

7. *Asthāne Samrabhaha* (inopportune excitement) Present/Absent

8. *Asthāne Ākroshaha* (inopportune shouting) Present/Absent

9. *Pareshān Abhihananam* (assaulting) Present/Absent

10. *Nabda Ceṣtā* (reduced motor activity) Present/Absent

11. *Anya* (others)

(ii) Speech

1. *Satatām Girāmutsargaha* (continues/excessive talk) Present/Absent

2. *Aniyatām Girāmutsargaha* (irregular/incoherent/ indefinite talk). Present/Absent

3. *Paruṣavāk* (harsh/rude talk) Present/Absent

4. *Vākmanda* (slowness of speech) Present/Absent

5. *Anya* (others)

(iii) Facial expression and postures

1. *Svayatuscānane* (puffiness of face) Present/Absent

2. *Sthimitākṣatā* (fixed eyes) Present/Absent

3. *Utpinditākṣatā* (protrued eyes) Present/Absent

4. *Samrabdhākshatā* (furious eyes) Present/Absent

5. *Aruna/Tāmra/Haridrā/Haritākshatā* (reddish/coppery /yellowish/greenish eyes) Present/Absent

6. *Nakhādi Shouklyam* (pallor of nails, etc.) Present/Absent

7. *Pitaca Bhā* (yellowish aura). Present/Absent

8. *Rukṣachhavi* (dry skin) Present/Absent

9. *Dhamanītataha* (having prominent veins) Present/Absent

10. *Kārśyam* (emaciation) Present/Absent

11. *Sphurita Sandhi* (throbbing of joints) Present/Absent

12. *Sthānamekadeshe* (confining to one place) Present/Absent

13. *Anya* (others)

VIII. *Ācāraḥ* (conduct)

Intact/Moderately changed/Grossly changed/Cannot be tested

(i) Personal standards

1. *Śouca Dveṣaha/Bhībhatsatvam* (hating cleaniness and remaining very dirty and shabby without caring for personal hygiene). Present/Absent

(ii) Social standards

1. *Vinagnabhāvaḥ* (nudity) Present/Absent

2. *Anya* (others)

IX. *Manaḥ* (mind)

Intact/Moderately impaired/Grossly impaired/Canot be tested

(i) *Indriyābhigrahaḥ* (perception and motor control)

(a) Cannot be tested because of non-co-operation.

(b) Disturbed because of peripheral factors.

(c) Disrbured : Mild/Moderate/Severe

Description :

(d) *Indriyasāpekṣāyathārthajñānam* (hallucination) :

1. *Asatya Jvālādi Darśanam* (hallucination of flame, star, etc.) Present/Absent

2. *Anya* (others)

(ii) *Manonigrahaḥ* (mental congrol) Present/Occassionally absent/Frequently absent

Description :

(iii) *Oohā* (guess) — Intact/Partly impaired/ Grossly impaired

Description :

(iv) *Vicāraḥ* (thought) — Intact/Mildly impaired/ Moderately imparied/ Grossly

(a) Discriminative ability — Intact/Mildly impaired/ Moderately imparied/ Grossly imparied

1. *Ativelam Santāpa* (continuous causeless mental distress) — Present/Absent

2. Ayānairyānam (riding on things which are neither movable nor mounts). — Present/Absent

3. *Anya* (others)

(b) *Indriyanirapeksāyathārthajñāñam* (delusion) — Present/Absent

1. *Himāmbunicayepicha Vahniṣankī* (doubting fire/hotness in cool surroundings) — Present/Absent

2. *Auṣnyam* (feeling of hotness) — Present/Absent

3. *Anya* (others)

X. ***Budhi*** (decision)

Intact/Partly impaired/Grossly impaired/Cannot be tested

1. *Vividhashabdānukaranam* (imitation of different sounds) — Present/Absent

2. *Sveṣāmabhihananam* (beating oneself) — Present/Absent

3. *Alpamati* (feeling of hotness mentally dull) — Present/Absent

4. *Anya* (others)

XI. ***Smṛti*** (memory)

Intact/Mildy impaired/Moderately impaired/Grossy impaired/cannot be tested

XII. ***Sañjñājñānam*** (orientation and responsiveness)

Intact/Midly imparied/Morderately impaired/Grossly impaired/Cannot be tested

(a) Orientation to place : Intact/Mildly imparied/ Moderately imparied/ Grossly impaired

(b) Orientation to time : Intact/Mildly imparied/ Moderately imparied/ Grossly impaired

(c) Orientation to person : Intact/Mildly imparied/ Moderately imparied/ Grossly impaired

Description :

(d) Responsiveness : Intact/Mildly imparied/ Moderately imparied/ Grossly impaired

Description :

XIII. ***Bhakti*** (desire)

Intact/Moderately changed/Grossly changed/Cannot be tested

(i) Physiological desires

(ii) Desires in relation to attire

(iii) Desires in relation to entertainment

(iv) Others

1. *Ushnasevī* (desirous of hot things) Present/Absent
2. *Śītābhilāsī* (desirous of cool things) Present/Absent
3. *Alabdheshu Abhyavahāryeṣu Tīvra Lobha* (craving for securing unobtainable things). Present/Absent

4. *Labdheshu Abhyavahāryeṣu Tīvramātsaryam* (hiting things craved for, when they are available). Present/Absent

5. *Anya* (others)

XIV. (i) *Prakṛti* (constitution)

(a) *Śarīra* (physical)

(b) *Mānas* (psychological)

XV. *Satvam* (mental stamina) : *Pravaraḥ/Madhyamaḥ/Avaraḥ.*

XVI. Physical examination including : *Doṣadhātumala Parīkshā Astasthāna Parīksā and Āturavrittam*

XIV. *Roganidānam* (diagnosis) :

Provisional

Final

XVIII. *Chikitsā* (treatment) :

Date		*Aushadham* (drug)		*Satvāvajaya Chikitsā* (psychotherapy, etc.)	*Āhāra* (diet)
	Name	Quantity	*Anupāna/ Sahapāna*		

2. General instructions and guidelines for completing the proforma

A. General Instructions

(i) Parient's condition earlier to the onset of illness should be inveriably taken into account while assessing his mental condition. For convenience and uniformity of approach a period of one month prior to the point of evaluation is considered. For follow-up examination, the period to be considered may be altered suitably.

(ii) Only a few questions and examples have been provided under the guidelines for examining different dimensions of *Manaḥ* the interviewer may ask any other suitable questions or give tougher tasks taking into account patient's *Jātiprasaktā* (hereditary), *Kulaprasaktā* (familial), *Vayonupatinī* (agewise) *Deśānupātinī* (climatic), and *Kālānupātinī* (seasonal), traits, *Śarīra* and *Mānasa Prakṛti, Satvam, Sātmyam,* (homolagation), *Balam,* (strength) and such other important factors which have a direct bearing particularly on the mental status of an individual.

(iii) While examining *Śīla, Cestā* and *Ācāra* Caraka's concepts of *Sukhāyu* and *Hitāyu* (which refer to individual well-being and social well-being of a person, respectively), *Sadvrittam, Dinacaryā* and *Ritucaryā* should be taken into consideration since these will be helpful in grading the impairment of *Śīla, Cestā* and *Ācāra.*

(iv) It may not be possible to conduct a satisfactory and comprehensive examination of the patients who are deaf, mute or non-cooperative. In such cases examination may have to be confined to *Sīla, Cestā* and *Ācāra* and re-attempted when the patient is in a better condition.

(v) *Lakṣana* (sign and symptoms) of *Doṣaja Unmāda* grouped under *Sīla, Cestā, Ācāra, Manaḥ* etc., should be elicited and recorded as present/absent. *Lakṣana* other than those under the different headings in the proforma, but found in the patients should be recorded under 'Others', suitably.

B. Guidelines

I. *Āvedakaḥ* (informant)

It taken from relatives or friends, informant's name, relation to the patient, intimacy and length of acquaintance, impression of informant, realibility etc., to be recorded. If information is obtained from several sources, information obtained by each source to be recorded separately.

II. *Pradhāna Vedanā* (chief complaint)

Complaints to be recorded serially in the other they are narrated by the patient himself or his relative or friend with duration of each complaint.

III. *Vedanāvrittam* (history of present illness)

Detailed account in chronological order of the illness from the earliest time at which a change was noticed until the admission to hospital to be recorded.

IV. *Pūrvavyadhivrittam* (medical history)

Disease or diseases suffered before the onset of the present illness to be recorded with details of duration, treatment taken, result etc. The disease may be categorised as detailed below. Disease if any, not fitting into these categories should also be recorded under 'Others'.

(i) *Ādibalapravritta Vyādhayaḥ*--diseases caused by *Bījadoṣa* (defective reproductive element) like, *Kuṣṭham, Arśaḥ, Mehaḥ* etc.

(ii) *Janmabalapravritta Vyādhayaḥ*--disease caused by the errors of the expectant mother like, *Pāngulyam, Mūkatwam, Jayāndhyam* etc.

(iii) *Doṣabalapravritta Vyādhayaḥ*--disease caused by vitiated *Doṣa* due to errors in food, conduct etc., like, *Jvaraḥ, Atisāraḥ, Unmādaḥ* and others.

(vi) *Sanghātabalapravritta Vyādhayaḥ*--disease caused by trauma or bite/sting of animals.

(v) *Kālabalapravritta Vyādhayaḥ*--diseases caused by seasonal variations.

(vi) *Daivabalapravritta Vyādhayaḥ*--diseases caused by providential influences beyond human control.

(vii) *Svabhāvabalapravritta Vyādhayaḥ*--diseases caused by natural and/or premature organic and functional changes in the body.

(viii) Others.

V. *Kulavrittam* (family history)

(i) Patients : Health, age or age at the time of death, and cause of death, personality, occupation to be recorded.

(ii) Siblings : Enumerated in chronological order of birth with ages, marital conditions, personality, occupation, health, illness etc. Miscarriages and still births to be included.

(iii) Social position and general efficacy. Any familial diseases, abnormal personalities, blood relationship of parents marriage, if any to be noted.

(iv) Home atmospher and influence : Emotion relation to parents.

VI. *Śīla* (habits etc.)

Definition and method of examination :

(i) शीलं सहजवृत्तम् । च. इ. १/३, चक्र ।

(ii) शीलं सहजवस्तुषु रागम् । च. वि. ४/८, चक्र ।

(iii) शीलं शास्त्रार्थानुसारिणो अविपरीत स्वभावः । सु. सू. २/३, ड़ ।

(iv) शीलमनुशीलनेन । अनुशीलनेन इति अनुशीलनं संतत शीलनं तेन सततं अयमर्थं सेवते तत् शीलमित्यनुमीयते । च. वि. ४/८, चक्र ।

(v) शीलविभ्रंशात् अक्रोधेनः क्रोधनो भवति । च. नि. ७/५, चक्र ।

Śīla refers to habit and temperament. It includes habit pertaining to physiological functions, personal care, and leisure time activities. Ascertain changes, if any, in the habits like sleep, awakening, bowel and bladder clearance, teeth washing, hair/nail trimming, aneling, smoking, eating, chewing, pan, tobacco, drinking coffee/ tea,liquor etc., doing physical exercises, having sex, seeing movies, reading books, spending leisure time and so on.

Also note the changes in his temperament by eliciting whether he has become morose/irritable/disinterested/quiet/over enthusiastic and the like. Finally note the important changes in relation to (i) habits, (ii) temperament, (iii) physiological functions, (iv) personal care, and (v) leisure time activities.

VII. *Cestā* (psychomotor activity)

Method of examination :

चेष्टाविभ्रशात् अनुचित चेष्टा भवति । च. वि. ७/५ ।

Cestā refers to psychomotor activity such as general motor activity, speeck, facial expression, posture etc. Observe the level of motor activity and decide whether it is *Hīna* (less), *Ati* (excessive), or *Mithyā* (erratic). In case of *Henna Cestā*

or *Ati Cestā* note if it is on account of any general health condition. Note the rae, quantity and flow of speech. Observe for movements which are inappropriate or peculiar like whistling during the interview, plucking hairs, inopportune imitation of different sounds, playing with body parts as if they are musical instruments, tics, grimaces, twictching, giggling mannerisms, etc. Observe whether he remains in one posture for unduly long time or changes posture frequently, and so on. Record the changes in relation to (i) general motor activity, (ii) speech, (iii) facial expression, and posture.

VIII. *Ācāraḥ* (conduct)

Definition and Method of examination :

(i) अचारः शास्त्रादि शिक्षा कृतो व्यवहारः। च. नि. ७/५, चक्र; च. इ. १/३, चक्र।

(ii) आचारः देशकालानुगतो लौकिक विधानम्। सु. सू. २/३, ड।

(iii) आचारः श्रुति स्मृति विहितानुष्ठानमित्येके। सु. सू. २/३, ड।

(iv) आचारविभ्रंशात् अशौचाद्याचरति। च. नि. ७/५, चक्र।

Ācāraḥ refers to behaviour in accordance with the socially code of conduct, and etiquette and respect for cultural taboos. This includes norms of conduct taught by elders or learnt though treatises. This may be in relation to patient's personal and/ or social behaviour. Ascertain whether he is indulging in (a) doing forbidden acts like, ploughing on Mondays, going unnecessarily to grave yard/crematorium/tank, etc., eating in a lavatory/bathroom, (b) decroating person with too much of cosmetics, flowers, etc., and wearing gems, telisman, herbs and the like, (c) ignoring certain religious principles which he used to revere and follow earilier, (d) showing disrespect to elders, parents and friends whom he used to regard, and (e) epitting, coughing, sneezing, and nose blowing, etc., without any consideration to fellowmen in a group, and so on. Record significant changes in *Ācāraḥ* in relation to his (i) personal standars, and (ii) social standards.

At this point it is useful to assess the degree of co-operativeness for the examination and motivation to seek advice. In case the patient in unco-operative due to poor motivation, altered consciousness or excitment, the same may be noted. The assessment of the other mental functions should be made in the light of such observations and if necessary detailed examination of these may be deferred.

Refer *Caraka Samhitā, Sūtrasthānam*--Chapter 5, 7, 8, 11, 21 and 30; *Vimānasthānam*--2; *Sushruta Samhitā, Sūtrasthanām*--20, 34, 46; *Chikitsāsthānam*--24, *Astāgahridaya, Sūtrasthānam*--2, 3 and 4.

IX *Manaḥ* (mind)

Method of Examination :

Manaḥ has to be examined through its *Karma* or functions. The four *Karma* of *Manaḥ* are (1) *Indriyābhigrahaḥ,* (2) *Manonigrahạ* (3) *Oohā* and (4) *Vicāraḥ* (Ch. Sh. 1/21).

(1) *Indriyābhigrahaḥ* (preception and motor control). This refers to the proper functioning of *Jñānendriyam* and *Karmendriyam* in the absence of any defects in *Indriyam* (cerebral organic factors--central) or *Indriyādhisṭhānam* (sensory and motor organs--peripheral) which impede the functions of *Indriyam* apart from disordered *Manaḥ*. Ascertain his ability to hear, feel, see, taste and smell and note if there is any distortion. *Indriya-Sāpekṣāyatārṭhajñānam* (hallucinations) if any, to be recorded in detail. Ascertain his ability to hold, walk, and speak. Note if there is any change in defaecation, micturition, and sexual function.

In interpreting the test results one has to take into account the patient's level of consciousness, co-operativeness, etc., which are essential for satisfcatory determination of *Indryābhigrahaḥ*. When the patient in excited or disinterested or unco-operative or disturbed with any such obvious reasons, suspend judgement regarding the intergrity of *Indriyābhigrahaḥ*. The results may be interpreted as follows :

(i) Cannot be tested as the patient in unco-operative.

(ii) Disturbed because of peripheral factors like eye or ear disease.

(iii) Disturbed in the absence of (i) and (ii).

In case where (iii) is applicable, indicate the severity of the disturbance as mild, moderate, or severe taking into account both the number of sensory modalities involved and the persistence of disturbed functions.

2. *Manonigrahaḥ* (Mental control) : This refers to mental contrl which is the ability to concentrate on something and stick to the given task or chosen course of action without being unduly interrupted by the distracting stimuli from outside. Ask him to (a) keep gazing at an object or keep his eyes closed until signalled to stop or open, (b) count the numbers from 1 to 20 and so on. If appropriate, give him more complicated tasks of similar nature. Record the inference of the test as moderately disturbed or grossly disturbed depending upon whether the patient is able to perform the given task reasonable well or much poorer than that.

Manonigrah also implies the ability to refrain from easy surrender to ordinary temptation and/or going after things which are not good and which are unnecessary. Ascertain if he is fond of eating or buying things that may not be good or necessary.

Manonigrahaḥ may be elicited through both the patients and the informant. Elicit if the instances of poor mental control are only occasional or frequent.

3. *Oohā* (Guress) :

Definition : ऊहा आलोचनाज्ञानं निर्विकल्पम् । च.शा. १/२१, चक्र ।

Oohā refers to the subject's ability to guess different possibilities when he comes across a familiar situation. Ask him what he would guess when :

(i) A few policemen come to his village or locality;

(ii) His village is cleaned and decorated with colourful buntings and electric lamps;

(iii) A few truck loads of sand and stone slabs are empited in the outskrits of his village;

(iv) Only 4 of the 5 cattle gone for grazing return home;

(v) Siren sound is heard in the streets;

(vi) More policemen are found controlling traffic on a particular route and so on.

Record inferences as : Intact/Partly Imparied/Grossly Impaired.

4. *Vicāraḥ* (thought)

Definition : विचारो हेयोपादेयतया विकल्पनम् । च. शा. १/२१, चक्र ।

This refers to the ability to discriminate between right and wrong, possible and impossible, acceptable and unacceptable, etc. *Vichāraḥ* is elicited by asking him to discuss about the topics of common interest and his familarity. Ask him to discuss the advantages and disadvantages of chemical fertilizers, hybrid crops, power looms and the like. Ask him to brief about unemployment, illiteracy, under-nourishment, industrial effluents, environmental pollution, slums and slum dwellers, roadside vending of eatables, sanitation in public places like hospitals, hotels, cinema houses, swimming pools, etc. Ask him to give his suggestions in the following situation : "A farmer who has some coconut trees/food crops is urgently in need of some money, but he is not able to get cash loan from his friends/relatives.

What should he do ?" Confront him with similar examples if required. As he proceeds to brief or discuss or place his views, he may be interrupted at suitable points to ascertain his discriminative power and ability to defend his views. If he has indulged in indiscriminative behaviour during the course of the present illness, he may be asked to explain. If the verbal production is entirely unintelligible or nearly so rate *Vichāravibhramṣaḥ* as gross. In lesser degree, i.e., when the talk is largely understandable, decide whether the *Vichāravibhramṣaḥ* is mild or moderate.

Record in detail *Indriyanirapekṣārthajñānam* (delusions), if any.

X. *Budhi* (decision)

Definition and method of examination :

(i) बुद्धिः तत्कालविषया। सु. शा. १/१८, ड़।

(ii) अन्ये नियमात्मिका बुद्धिमाहुः। सु. शा. २/३, ड़।

(iii) या बुद्धिर्निश्चयात्मिका। च. शा. १/२३।

(iv) विषमाभिनिवेशो यो नित्याऽनित्ये हिताऽहिते। ज्ञेयः स बुद्धि विभ्रंशः समं बुद्धिर्हि पश्यति। विषमाभिनिवेशः अयथाभूतत्वेन अध्यवसानं नित्यमनित्यमिति प्रियमप्रियमिति।।
च. शा. १/९९, चक्र

Budhi refers to the ability of the patient to take decisions in general and quick decisions in particular. Confront him with instances of ***Budhivibramṣaḥ*** (indecisiveness). He may be further examined to elicit the loss of power of decision as follows :

(i) Is he finding it difficult to take decisions in contrast to his earlier ability or is he troubled by indecisiveness even on trival matters like which shirt to wear to the office or which cinema to be seen, and so on (ii) ask him what he would do if (a) the cinema house inside which he is sitting catches fire, (b) the clothes he is wearing catch fire, (c) a child slips into a water tank or falls on the ground, (d) a person receives a deep cut in his forearm resulting in profuse bleeding, (e) a person falls down unconscious, (f) it rains heavily on his grain store or hay stack, and like.

The quckness and decisiveness with which he has responded to the tests under *Vichāra* may also be taken into account in judging the condition of *Budhi.*

Also ascertain whether the informant is able to notice any difference in the patient's work and whether the patient leaves things half done. Record the finding as intact/partly impaired/grossly impaired.

IX. *Smṛti* (memory)

Definition and method of examination :

(i) स्मर्तव्यमिति स्मृतिरुच्यते। च. शा. १/१०१।

(v) स्मृतिभ्रंशात् न स्मरति अयथा वा स्मरति। च. नि. ७/५।

Smṛti is the subject's ability to recall things that are seen, heard, or experienced. Eight factors have been counted as cause of *Smṛti* by Caraka (C. Sh. 1/148). *Smṛti* is examined in relation to different time periods preceding the examination. Ask the patient to recall events that have occurred within hours, days, months and years.

He may be asked how he has reached the hospital; what he has eaten before coming for the interview; when he was married; when was his first child born, and so on. When there is differential involvement of *Dṛstam, Srutam* and *Anubhūtam Smṛti,* it should be recorded. The impariment may be graded as mild, moderate or severe for each of the time period.

Any information or claims about the ability of the patient to recall experience of his past birth or any other para-psychological or extrasensory perceptions may be considered as *Smṛti* caused by *Satvānubandha* or *Jñānayoga* or both and recorded in detail.

XII. *Sañjñājñānam* (orientation and responsiveness)

Definition and method of examination.

(i) संज्ञा नामोल्लेखन ज्ञज्ञनम्। च. वि. ४/५. चक्र।

(ii) देशकालात्म विज्ञानं सद्वृत्तस्यानुवर्तनम्। च.सू. ७/५३।

(iii) संज्ञा नामग्रहणेन। चि. वि ४/८।

(iv) संज्ञा विभ्रंशात् अग्न्यादि दाहं न बुध्यते। च. नि. ७/५, चक्र।

Sañjñājñānam denotes the subject's orientation to place, time and person and responsiveness to external stimuli. For orientation, examine whether the patient is able to locate himself property. Ask questions like, what it the time ? Where are you now ? Who are the people around you ? etc. Record the impairment if any, in relation to time, place, and person as, mild/moderate/gross.

Test responsiveness by subjecting the patient to increasing degree of stimulation (pain, sound, etc.) until he records. Record the degree of impairment as mild/ moderate/severe.

XIII. *Bhakti* (desire)

Definition and method of examination :

(i) भक्तिरिच्छा। च. वि ७/५, चक्र, च. इ. १/३, चक्र।

(ii) भक्तिविभ्रंशात् यत्र इच्छा पूर्वे आसीत् तत्र अनिच्छा भवति। च. नि. ७/५, चक्र।

(iii) भक्ति देशेन। च. वि. ४/८।

Bhakti refers to *Ichhā* or *Desire*. Ascertain whether his desires have grossly changed. Consider physiological desires like food, sex, sleep, etc. Observe desires regarding dress, entertainment, charitable activities or any other unusual desires or impracticable plans.While judging the *Bhakti* of the patient, take into consideration his habitat, family and socio-religous background. Record the changes in relation to (i) food, (ii) sex, (iii) dress, (iv) entertainment and (v) others.

XIV. *Prakṛti* (constitions, XV. *Satvam* (mental stamina) and XVI. physical examination including *Doṣadhātumala Parīkshā* and *Astasthāna Parīkshā*

For eliciting *Śhārīra* and *Mānasa Prakṛti*, *Satvam* and *Doṣadhātumalasthiti*, standard classics may be followed. *Astasthanaparīkshā* may be carred out on the basis of the description available in Yogaratnākaraha.

Āturavrittam (personal history) of the patient before the onset of present illness to be described under *Prakṛti*, taking into account defferent stages of his/her development like *Bālyam* (childhood), *Madhyāvasthā* (middle age), and *Jīrnāvasthā* (old age), etc.

Abbreviations used

इ—*Indriyāsṭhānam.*

च—Caraka Samhitā.

चक्र—Cakrapāni's commentary.

चि—*Chikitsāsthānam.*

ड—Dalhana's commentary.

नि—*Nidānasthānam.*

वि—*Vimānasthānam.*

शा—*Śarīrāsthānam.*

सु—*Susruta Samhitā.*

सू—*Sūtrāsthānam.*

Note :

1. First numbers immediately following the abbreviations indicate chapter, second numbers indicate the text, viz. the verses or passages.

2. Transliterations of *Sanskṛt* words into English have been done considering the actual Pronunciation of the *Sanskṛt* terms and popular method of transliteration still prevailing and NOT on the basis of the phonetic symbols recommended in *Sanskṛt*-English dictionaries.

BIBLIOGRAPHY

Anonymous	1978	*Mental Disorders,* Glossary and Guide to their Classification in Accordance with the Ninth Revision of the International Classification of Diseases, World Health Organization, Geneva.
Anonymous	1982	*Handbook of psychiatry*, Published by Cambridge University Press, Cambridge, England.
Anonymous	1973	*The International Pilot study of Schizophrenia,* Vol. I, World Health Organization, Geneva.
Agrawall S.S.	1981	Some CNS Effects of *Hydrocotyle asiatica* Linn. *Journal of Research in Ayurveda and Siddha,* 22, 2, 144-149.
Achal	1976	*Pracheen Bharateeya Manovijnan* (Hindi), Tibbia, Academy, Lucknow, India.
Bakan, P.	1969	Extroversion- Introversion and an Improvement in an Auditory Vigilance task, *British J. of Psychol.*, 50, 325-332.
Barkowski, I.G., Benten, A.L. and Spreen, O.	1967	Word Fluency and Brain Damage, *Neuropsychologia*, 135-140.
Bleuler, M.	1974	The long term Courses of Schizophrenic Psychosis, *Psychol. Med.*, 4, 224-254.
Caraka	1941	*Carakasamhita,* Cakrapani Teeka, 3rd Edn., Ed. by J.T Acharya, Published by Nirnaya Sager Press, Bombay.
Caraka	1949	*Caraka Samhita*, Popular Edn. in 6 Volumes, (Ed. & Pub.) Gulabkunverba Ayurvedic Society, Jamnagar, Indian.

Chatergee, Prabhakar Arcarya	1971	My experiemnts with Cuckoo's meat in the Treatment of Mental Disorders, *JRIM.*, 7, 2, 79-81.
Claridge, G.S.	1967	*Arousal and Personality*, Oxford, Pergamon.
Claridge, G.S. and Harrington, R.N.	1968	Sedation, Threshold, Personality and the Therapy of Neurosis, *Journal of Mental Sciences*, 106, 1583.
Das Govind	1969	*Bhaishajyaratnavali* (Commentator A.D. Shastry & Ed. by R.D. Shastry), Chowkhamba Sanskrit Series Office, Varanasi, India.
Dash, S.C., Tripathi, S.N., Singh, R.N.	1983	Clinical Assessment of drugs in the Management of Psychosis (*Unmāda*). *Ancient Science of Life*, Vol. 3, 2, 79-81.
Davies, D.R. and Tune, S.S.		Human Vigilance.
Day, P.K. & Chaterjee, B.K.	1968	Pharmacological Properties of Glycerine on the higher Nervous Activity, *JRIM* 3, 1, 19-23.
Dwivedi, V.N.	1966	*Ayurved Ki Oushadhiyan Va Unka Vargikaran*, Instutute for Ayurvedic Study and Research, Jamnagar, India.
Fezodar, N.G., Doongaji, Bagadia, V.N. and Vahia, N.S.	1962	Premilinary report of an Indigenous drug *Acorus calamus* in Psychiatric Disorder, *Indian Journal of Psychiatry*, 4, 8.
Gottesman, I.I. and Shields, J.	1982	Schizophrenia's the Epigenetic Pussle, Cambridge University, New York.
Gupta, S.P.	1977	*Psychopathalogy in India Medicine* (Ayurveda), Ajaya Publishers, Aligarh, India.
Hakim, R.A.	1953	Indigenous Drugs in the Treatment of Mental Diseases, paper read before 6th Gujarat and Saurastra Provincial Medical Conference, Baroda.

Hakim, R.A. 1964 A preliminary report on the use of *Malkangani* with other Indigenous Drug in the Treatment of Depression, *India Journal of Psychiatry*, 6, 142.

Hare, E. 1982 Epidemiology of Schizophrenia- *Handbook of Psychiatry*, (Eds. J. K. Wing and L. Wing), P.42, Cambridge University Press England.

Holland, H.C. 1965 *The Spiral After Effect*, Oxford, Pergamon.

Holzman, P.S. 1987 *Recent Studies of Psychophysiology in Schizophrenia*, Maryland, US. PAS.

Jablenski, A. and Sarttorius, N. 1975 Culhiras and Schizophrenia, *Psychol. Med.*, 5, 113.

Kale, B.S. 1961 Role of Indigenous drug in Psychiatry, *Indian Journal of Psychiatry*, 3, 260.

Karel, Nespor and Singh, R.H. 1986 The Experiences with Āyurvedic Psychotherapy, *Satvāvajaya* in Europe, *ASL*. V. 3, 154-155.

Kornestsky, C. and Orzack, M.H. 1978 Psychologic and Behavioural Correlates of Attention Dysfunction in Schizophrenic Patients.

Kashypa 1953 *Kashyapasamhita*, (Translator and Commentator S.P. Bhishagacharya), Chowkhamba Sanskrit Series, Banaras, India.

Koushik, A.K. & Singh, R.H. 1983 Clincial Evaluation of *Medhya Rasayana* Compound in cases of non Depressive Anxiety Neurosis, *ASL*, II, 1, 11.

Kumar Dhanya Ijari 1983 *Ayurvedeeya Manovijnan* (*Kannada*), Prasaranga University of Mysore, India.

Kraepelin, E. 1913 *Psychiatrie, Ein Lehrbuch for Studierende and Artze* (Psychiatry, a text book for Sutdents and

Practitioners), 8th Edition, Vol. III, leipzig, Berth.

Lakshmipati, A. 1950 *Mind in Health and Disease*, Vol. I, Section 1, Central Co-operative Printing Works, Madras, India.

Laxminarayana, C.S., Satyavathi, K. and Murthy, H.N. 1969 Towards the development of Psychopathic Deviate Scale, A.I.I.M.H., Bangalore, 9, 81.

Madhavakara 1966 *Madhavanidana*, 3rd Edn., Ed. by Y.N. Upadhyaya, Chowkhamba Sanskrit Series Office, Varanasi, India.

Mahal, A.S., Chaturvedi, D.D., Ramu, M.G., Janakiramaiah, N. & Narasimha Murthy, N.S. 1977 *Indian J. of Psychiatry*, 19, 3, 19-26.

Meitzer, H.Y. 1987 Biological studies in Schizophrenia Special Report Schizophrenia, Maryland, US, PAS.

Miller, E. 1984 Verbal Fluency as a Function of a Measure of Verbal Intelligence and in relation to different types of Cerebral Pathology, *British. J. of Cil. Psychol.*, 53-57.

Mukundan, .C.R., Mukundan Hemalata and Murthy, N. Vinoda 1979 Battery of test of Learning Memory Functions for Assessing Temporal Lobe Involvement, paper presented in the 10th All India Convention of Clinical Psychologists in NIMHANS, Bangalore.

Mukunda, C.R., Narayana Reddy, G.N., Hegde, A.S., Shankar, S. and Kaliperumal, V.G. 1987 Neuropsychological and Clinical Recovery in patients with head Trauma, *NIMHANS Journal*, V, 23-32.

Murthy, H.N. 1965 Development of Paranoid, Depressive, Manic and Anxiety Scales, A.I.I.M.H., Bangalore, 5, 50.

Murthy, H.N. 1964 Development and Validation of Schizophernia scale, A.I.I.M.H., Bangalore, 4, 1.

Murthy, H.N. and Laxminarayana C.S. 1968 A note on the Development of Hysteria Scale, A.I.I.M.H., Bangalore, 8, 148.

Murthy, A.R.V., and Singh, R.H. 1987 The concept of Psychotherapy in Ayurveda with special Reference to *Satvāvajaya*, *ASL*, VI, 4, 225-261.

Pathak, B.A. 1949 *Manasarogavijnam* (Hindi), Baidyanth Ayurved Bhavan, Nagapur, India.

Ramaswamy, A.S., Periyaswamy, S.M. and Basu, N. 1970 Pharmacological studies on *Centella asiatica* Linn (*Brahmi/Mandeoki*) N.O. Umbelliferae). *Journal of Researh in Indian Medicine*, 4 : 2, 160-175.

Ramu, M.G., Shankara, M.R., Leelavathy, S., Narasimha Murthy, N.S. 1979 Effect of Ayurvedic treatment in *Unmāda* (182 cases), *Sachitra Ayurveda*, Dec., 310-313.

Ramu, M.G., Venkataram, B.S., Janakiramaiah, N., Shankara, M.R. & Leelavathy, S. 1981 An approach to Mental Examination based on Ayurvedic Concepts, CCRAS Monograph 12, New Delhi, India.

Ramu, M.G., Janakiramaiah N., Senapati, H.M., Mukundan, H., Shankara, M.R., Narasimha Murthy, V. S. & Venkataram, B.S. 1982 *Kshiradhara* in Anxiety Neurosis (*Chittodvega*) : A pilot study, *JRAS*. III, 3 & 4, 126-132.

Ramu, M.G., Senapati, H.M., Mukundan, H., Janakiramaiah, N., Shankara, M.R., Chaturveda and Narasimha Murty, N.S. 1983 A pilot study on the role of *Brāhmyādiyoga* in chronic *Unmāda* (Schizophrenia). *ASL*., 2, 3, 205-207.

Ramu, M.G. & Venkataram, B.S. 1985 *Manovikāra* (Mental Disorders) in Ayurveda. *ASL*, IV, 3, 165-173.

Ramu, M.G., Venkataram, B.S., and Janakiramaiah, N. 1988a *Manovikara* with special Reference to *Udvega* and *Vishada*, *NIMHANS* Journal, 6, 1, 41-46.

Ramu, M.G., Venkataram B.S., and Janakiramaiah, N. 1988b Ayurvedic definition and Classification of *Manasavikara, Sachitra Ayurveda*, June, 619-624.

Rana, J.A. 1956 Psychosis due to Cerebral Arterial Sclerosis and it's Treatment, paper read before 9th Gujarat and Saurastra Provincial Medical Conference, Navasari.

Rao, Appa, Srinivasan, M.V.R. Kanchana and Koteswara Rao ,T. 1973 Effect of *Maṇḍūkaparnī* on the general Mental Ability (*Medha*) of Mentally Retarded Children, *Journal for Research in Indian Medicine,* CCRIMH, Varanasi, VIII, 4, 9-15.

Ray, Dutta, Mathur, S.M. and Karora 1964 A double blind trial of *Nuvon*, an Āyurvedic drug on Chronic Schizophrenia, *Indian Journal of Psychiatry*, 6, 26.

Reddy, G.N.N., Ramu, M.G., Venkataram, B.S. 1987 Concept of *Manas* (Psyche) in Ayurveda, *NIMHANS J.*, 5(2), 125-151.

Rockland Lawrence, H., Pollin, W., and Bethesda 1965 Quantification of Psychiatric Pateints, *Archives of General Psychiatry*, 12, 23-28.

Salter, E. and Roth, M. 1969 *Clincial Psychiatry*, London, Bailliere, Tindall and Cassell.

Seth 1962 Role of Soberin in mental patient, *Indian Practioner*, 15, 545.

Sharngadhara 1974 *Sharngadharasamhita*, 2nd Edn., Baidyantha Ayurveda Bhavan, Nagpur, India.

Singh, H.G. 1977 *Psychotherapy in India*, National Psychological Corporation, Agra, India.

Singh, H.G. 1980 Fundamental concepts of Ayurvedic Psychiatry, *Sach. Ay*., May, 663-68.

Singh, N., Chand, N., and Kohli, R.P. 1974 Prarmacological studies on *Celastrus paniculata* (*Malkangani*), *JRIM*, IX, 1, 1-8.

Singh, R.H. 1986 *Ayurvedeeya Manasvijnan* (Hindi), Chowkhamba Amarbharati Prakashan, Varanasi, India.

Singh, R.H., Sinha, B.N., and Pandey, H.P. 1975 A comparative study on the Psychotropic action of the *Medhya* drugs, *Brahmi* (*Bacopa monnieri*) and *Mandukaparni* (*Hydrocotyle asiatica*), *JRIM*, X, 2, 108-110.

Singh, R.H. 1978 *Ayurved Sahitya Men Hrdaya, Manas, Medha*, Shiras, Mastulung Ka Parasparik Adhyayan, *Ayurveda Maha Sammelan Patrika*, 65, 7, 317-320.

Singh, R.H, Singh, Lallan and Sen, S.P. 1979 Studies on the Anti-anxiety effect of the *Medhya Rasayana (Bacopa monnieri). J. R. I. M. & Y. H.*, XIV, 3, 1-6.

Singh, R.H. and Singh, Lallan 1980 Studies on the Anti-anxiety effect of the Madhya Rasayana drug, *Brahmi* (*Bacopa monnieri*). Part I, *JRAS*, I, 1, 133-148.

Singh, R.H, Malavia, P.C., Sarkar, F.H., and Udupa, K.N. 1979 Studies on the Psychotropic effect of an Indian Indigenous drug *Ashwagandha* [*Withania somnifera* (Linn.) Dunal], Part-II, *JRIMYH.*, XIV, 1, 49-54.

Singh, R.H., Shukla, S.P. and Mishra, B.K. 1981 The Psychotropic effect of *Medhya Rasayana drug Mandukparni (Hydrocotyle asiatica)* : an Experimental study, Part II, *JRAS* XI, 1, 1-10.

Soni, S.R. 1955 Mental diseases and their Treatment with Indigenous Drugs, paper read before 32nd All India Medicinal Conference, Jaipur.

Shukla *et al.* 1977 *Sachitra Ayurveda*, 15, 5.

Susruta 1938 *Sushrutasamhita*, 3rd Edn. (Ed. By J.T., Acharya), Nirnayasagar Press, Bombay, India.

Sukhla, G.D. 1959 *Bhelasamhita*, Chowkhamba Vidya Bhavan, Varanasi, India.

Sukhla, S.P. 1980 A Comparative study on the Barbiturate Hypnosis Potentiation of *Medhya Rasayana Drugs Shankhapuspi (Convolvulus pluricaulis)* and *Mandukaparni (Hydrocotyle asiatica) Bulletin of Medico Ethno Botanical Research*, I, 4, 554-560.

Thakar, V.J. 1987 *Man Evam Manasroga* (Hindi).

Unnikirshna 1964 *Unmāda, Indian J. Psychiat*, VI 1.

Vagbhata 1939 *Astangahrdaya*, 6th Edn., (Ed., H.P. Vaidya), Published by Nirnaya Sager Press, Bombay.

Vahia, N.S. 1969 Some Ancient Concepts in the Treatment of Psychiatric disorders. *Indian J. of Psychiat.*, XI, 1, 7-14.

Vihia, N.S. 1966 A Therapy Based on some Concepts Prevalent in India, *British J. of Psychiat.*, 112. 1089.

Verma, L.P. 1965 Psychiatry in Ayurveda. *Indian. J. Psychiat*, 7, 4, 293.

Zahn, T.P. and Carpenter, W.T. 1978 Effects of short term out come and Clincial Improvement on Reactions Time in Acute Schizophernia, *J. Psychiatric Res.*, 14, p. 59-68.

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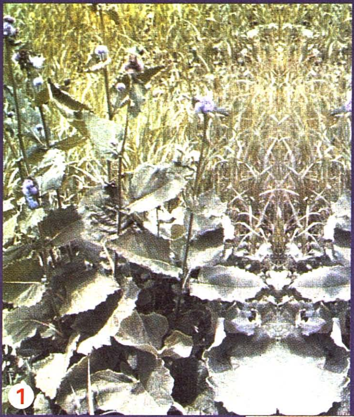
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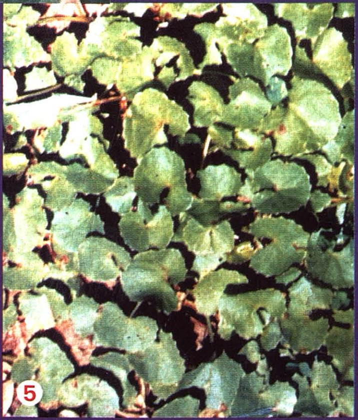
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